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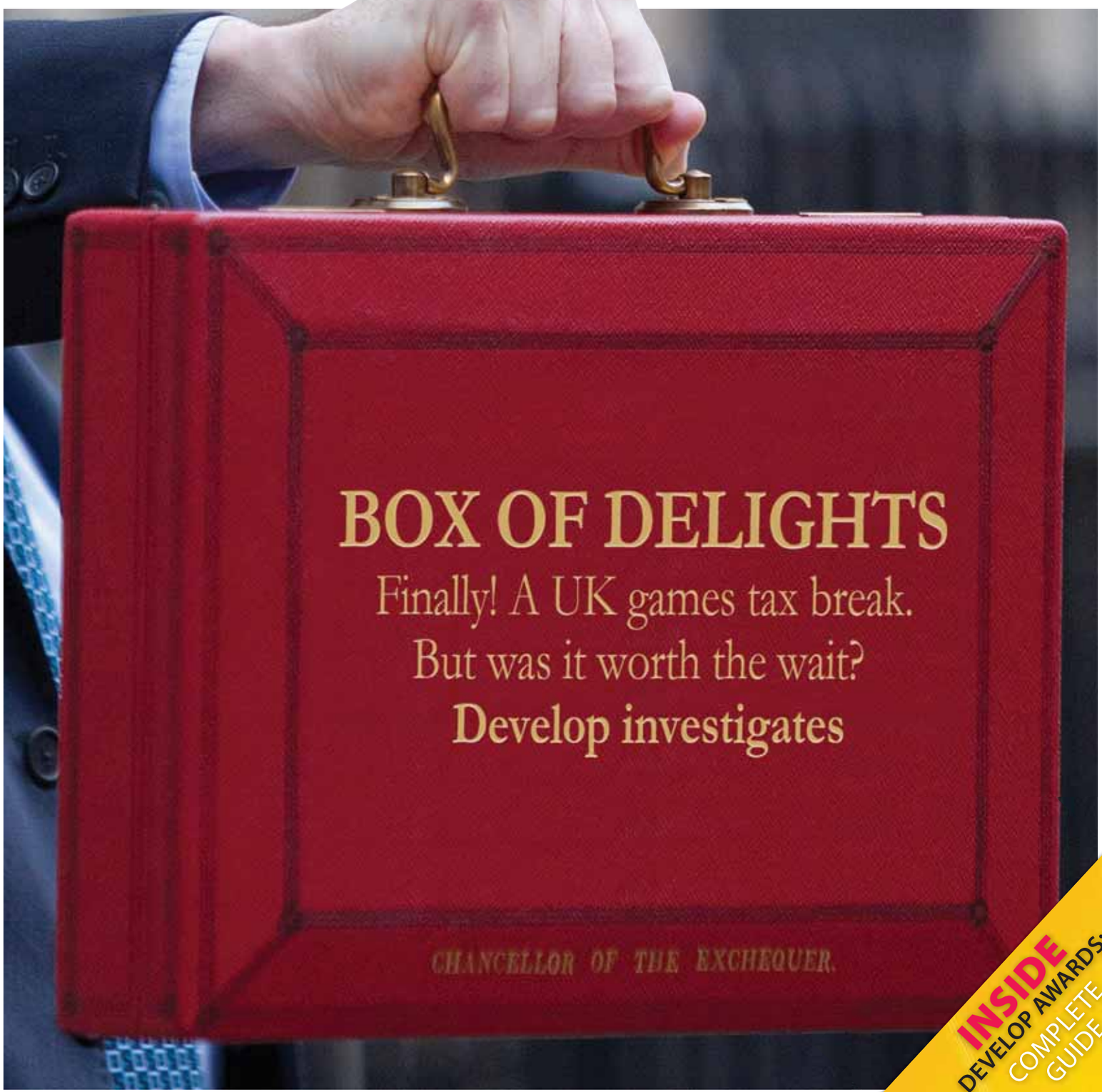

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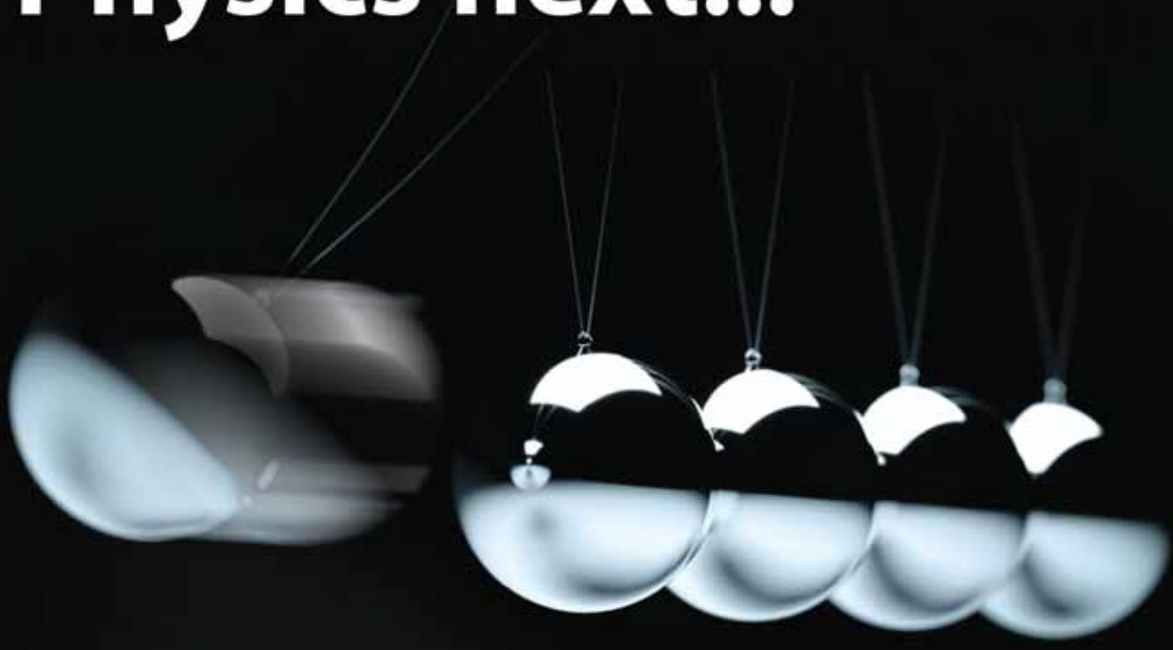

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ALPHA

ADVENTURES IN GAMES DEVELOPMENT: NEWS, VIEWS & MORE

The Unreal thing

Epic president Mike Capps tells Develop what's planned for Unreal Engine 4, and how mobile is changing the way the Gears of War studio approaches games development, p6

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EDITORIAL

THE BIG BREAK

A week or so after the spectacle of GDC was over, the copy of *Develop* you now hold in you hands was almost off to the printers.

Then news cameras across the United Kingdom turned their attention on the country's Government for the Budget address, where changes to the likes of taxes and pensions are announced to the nation.

Amidst the list of climbing prices and benefit cuts was some very special, very positive news for the UK games industry. After years of effort by studios, trade bodies and various other interested parties, tax breaks for the UK games industry were announced. For a moment it felt like the brain drain causing the UK to haemorrhage homegrown dev talent would reverse instantly.

After two dizzy days of excitement, delight and backslapping, the questions started to be asked. 'What will the impact be?' 'When will it happen?' And perhaps the most common of all; 'Will small studios benefit?'.

Here at *Develop*, we knew we needed to try and find answers. That was the moment our well-ordered issue was pulled apart. It was time to hit the phones, and talk to the people behind the UK tax breaks.

The result of that effort is our new cover feature – an in-depth investigation of the detail of the UK tax breaks, and an attempt to see if they really are everything we've all hoped for.

Elsewhere in this issue is an analysis of the troubled rise of HTML5, and a special feature that looks at the development environment of the PS Vita, which various Ubisoft staff tell us is surprisingly easy to make games for.

And, importantly, there's a five-page guide to winning a Develop Award – or nominating one of your contemporaries. If you're hoping to grace the stage at the ceremony this July 11th, you'd best turn to page 28 right now, because the deadline for lobbying closes on April 18th.

Will Freeman
will.freeman@intentmedia.co.uk

An Epic Show

After a significant GDC for Epic with private showings of Unreal Engine 4 and the unveiling of Infinity Blade: Dungeons, **Rob Crossley** asks Epic president Mike Capps what comes next

YOU ANNOUNCED THE next *Infinity Blade* at the Apple 'iPad 3' press event that happened alongside GDC 2012. What's your reaction to the press conference?
I think our show there went really well. The new iPad is awesome, and with the new resolution and new camera it has all kinds of shit I really want.

I think Epic shocked people at the event with how good *Infinity Blade: Dungeons* looked. Doing that a third time is hard.

With Apple's hardware cycle moving so fast, it really must be tough in terms of development cycles. How do you keep up?
It is hard, and they are pretty secretive, so we don't get as much heads up as we'd like. When you talk about consoles you kind of know even a few years ahead what's coming. Stuff gets disclosed a long way out ahead. Obviously Apple don't do that. I'm not even sure they know what they're doing in a year. I'm joking, but you know what I mean.

At the Apple press event to launch the new iPad during GDC, Epic took to the stage to reveal iOS sequel Infinity Blade: Dungeons

So do you predict what Apple might be doing if you're not getting told?
We predict further ahead than they tell us, yes. So you can kind of guess what the life time of the iPad 1-to-iPad 2 transition will be, and look at when their press conferences normally come. We can plan a game based for a certain timeframe and then approach Apple. So we showed them this game as soon as we had something up and running a long time ago and said to Apple: 'If you have something, this might be really, really good for it.'

So how far can you see the *Infinity* brand going, because you're releasing new versions of it every year now
Well, this game is very different. I'd say it's more *Diablo* style, whereas *Infinity Blade* originally was – well, you could call it '*Punch Out* with swords'. That was about very neat fights and kind of on rails. *Dungeons* is more about navigating the areas, exploring and stuff. So it's within the same IP but it offers a very different experience.

We didn't know what would happen when we shipped *Infinity Blade 2*, and then it did better than the first one, which itself is still selling very well. *IB2* made us realise that this thing had legs and was a franchise now. So here we are shipping the third one, and we'll see if everyone's tired of it. There's a lot of rich story behind this franchise now – there's a lot there – so it seemed silly to create a new fancy IP for this game. Why would we do that? Why create another IP and leave a successful one unused?

We'll see. Let's hope people like it.

Has your synergy with Apple become too lucrative to avoid? Because you're suddenly on hard deadlines again, where you have to show certain things at certain points, that must be quite demanding.
Sure, and I think if we'd kept ChAIR on that rapid release schedule it would have got hard. That's because there's a lot of crunching that happens at the end of every game, no matter how much you plan. But *Dungeon* we built with a completely different team that has not as a small team built a game before. They're all guys who worked on *Gears of War*.

That means that for them it is new and they're not at all rueing the iPad launch schedule. Instead they know that it will get their work a lot of attention and get them excited about it.

So you're moving the IP around dev teams?
We do now, and it's a very nice solution. It seems to be a great way to avoid what's known as exhaustion.

> ***"There's nothing stopping us making a $50 million iPad game, except for the fact it would probably be a little silly."***
>
> Mike Capps, Epic Games

Proportionally how big is the mobile side of Epic's business becoming?
It's getting bigger. Obviously it's tough to beat *Gears of War* with an iPhone game. Maybe *Angry Birds* did that; I don't know. The return on investment is higher for these games than some of the big games now. For these small teams, when they're successful, as we have been with *Infinity Blade*, there's a higher return on man-hours than with the big games.

It all feeds into our engine business. Having excellent games on a range of platforms is how we sell our engine, basically. We show off what you can do. You could be on stage with Apple, for example. You can be an industry leader. In that way, it's a synergistic business.

From what I hear about PS Vita and 3DS, that's not the case. It seems that on those platforms you have to make an investment that's not easy to pair with risk.
I would say the same thing for the *Infinity Blade* games. Those took, say, a 12-man team six months and a lot of outsourcing and stuff. That can get past a million dollars real quick. That's not a little development budget to most people. It's not the mega $70 million *Call of Duty*-type budget, but it's big. But for us that's a lot less risk. And with can take games like that we can be flexible and slot them in to our schedule.

It's hard to 'sneak in' a *Gears* game into a schedule, right? But it's easy to sneak in an *Infinity Blade* game. With that we have enough guys at Epic that we can carve it out; we can hire more people and we can make it in the middle of a big console release development or strategy. That's the nice thing about mobile.

But as mobile devices get so powerful so quickly, does that not make it tougher?
It's similar to what happened seven years ago with console. Mobile is moving really fast. If you think about the new iPad having more memory than the Xbox, which they said at the conference, and than the PS3, then that's a lot of texturing that you're going to have to do to fill that up to make the retinal display – which is higher resolution than your TV – look right. That's a lot of detail.

But the good thing right now is that the expectations aren't that high, and honestly, the market is not going to support that sixty-dollar game we put a $30 million budget into. That just doesn't add up right now in this market.

So those expectations are a lot lower. But the ability for us to make a game like, for example, *Final Fantasy XIII* or whatever, on a the new iPad is there. It gives you the space. It gives you a 64GB hard drive, so that's bigger than a Blu-ray disk. There's room for the game, and then its got more memory than a PS3 or Xbox, and a high resolution, so there's nothing stopping us making a $50 million iPad game, except for the fact that it would probably be a little silly.

So that's too crazy is it?
Yes, but for how long? That's really the question. Just look at the movie industry and how much they spent on *Avatar*.

The Gears of War franchise has become synonymous with Unreal Engine 3 and showing what's possible for triple-A games harnessing the technology

Two or three years ago nobody expected mobiles to be where they are today, they are surpassing many people's expectations. That considered, in terms of Unreal Engine, do you have a roadmap for how long you'll be supporting Unreal Engine 3?
We don't really have a roadmap. The general plan will see probably about the same level of crossover as before. After Unreal Engine 3 shipped with *Gears of War* we were still updating UE2 for a year or two after that I believe, and we were still licensing it. Even two or three years ago we were still selling UE2 licenses, so I assume there'll be that kind of crossover.

This time around we need to make some decisions about what platforms we'll support with the new tech. I mean, if you want to make, for example a Flash game with Unreal tech, that will probably be UE3 for a long time yet. And I can see that we might still be supporting 'iPad 7' or whatever they call it with Unreal Engine 4.

So, to cut a long story short, no, we don't have a plan. I'm joking, but we'll see. We'll continue to support UE3 for as long as it makes sense for us to keep doing it.

So we're talking a few years?
Definitely. Right now Unreal Engine 4 is only a high-end platform. We'll be adding support for those mid-range platforms later. The first target is to get this thing going on next-generation consoles. We'll do that first, so it will be a long time before UE4 is a top-to-bottom engine.

Is this the most stressful time in your career right now? You've got to support UE3, and now sort out Unreal Engine 4, and the iPad stuff, along with everything else that's going on at Epic. You must feel very stretched.
Well, we are stretched, but it's not like we're just embarking on UE4. We've been working on it for years. What's been the hard thing is while working on a game like *Gears of War 3*, which was the biggest game we've ever made, some of our best engine tech guys were working on UE4. In fact, about all of them were, which meant moving people back and forth between the two.

We had that classic dilemma: Do we invest in the future engine technology or do we keep working on making UE3 cooler and cooler and cooler, knowing that it has a limited life span. That was hard.

I did not like that last night I went to the GDC Game Developers Choice Awards, and for Best Technology *Gears* wasn't in it. We used to always win those.

Why the change? Partially because everything Frostbite is is in *Battlefield 3*, and it's amazing. But everything we have isn't in *Gears 3*, because it's in Unreal Engine 4 because we've been building for next-generation systems.

And to confirm, the *Samaritan* demo is built using Unreal Engine 3?
It is, yes, but it wasn't a game. And it did really well. We're getting tech awards at the moment, but not game awards. That stings me. I want all of the awards.

Do you plan to see UE4 being 'everywhere' eventually, in the same way UE3 is on almost every platform today?
Yes.

To what extent?
This is back to that thing we don't exactly have a plan for yet, but we'd be crazy to say 'let's wait on that iPhone business'. We first showed UE3 in something like 2004 or 2005. When did we first show the mobile version of the engine? 2010 or 2011? We're not going to wait that long this time. We're going to move a lot faster now, because we have a lot more experience.

And are you internally working on any projects using Unreal Engine 3?
Absolutely. There's unannounced projects as well as *Dungeons*, and there's *Fortnite*, which we've announced but not said much about.

Speaking of *Fortnite*, it's not common to see new IP at the end of a console cycle. What motivated creating it now?
It's partly giving our artists and designers a chance to stretch a bit and have a bit of fun. The game style; well, it started as something simpler with zombies with a different art style. Everybody embraced it, so that meant it was a new IP. If we had something already similar to it, that might have meant we would have slapped whatever it was on it, but as it is, it's *Fortnite*. We've had guys working on *Gears* for something like a decade, and now they get a chance to do something a little different. It's the same with *Infinity Blade: Dungeons*; our guys are having a lot of fun.

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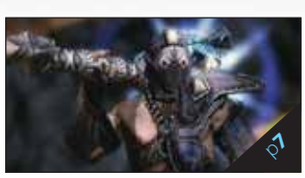

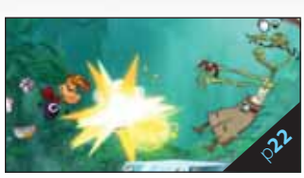

THIS MONTH: Infinity Blade: Dungeons **The games that convinced Ubisoft's studios of the Vita's strengths** Havok's latest tech in focus

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//COMMENT: BUSINESS

Uncharted territory

by **Rick Gibson**, Games Investor Consulting

Companies like Portal 2 (above) developer Valve, which are reluctant to share per-title sales figures, make composing accurate digital charts a tricky business

The ambition of 'digital' charts is to provide data-starved games companies – usually publishers – with sales data crowdsourced in time-honoured fashion from their peers.

How valuable or representative is this data? Following UKIE's new chart launch, I'll assess the challenges faced by such charts through the lens of the different metrics used in different categories of game.

Coverage is the first hurdle. UKIE offers a UK-only sales chart for core PC downloads, hoping to add DLC and short-form console games. This data would undoubtedly be useful for some, but many major companies in this space – market leaders like Valve and some of the largest publishers – remain reluctant to share per-title sales figures.

Even if UKIE bypasses operators like Valve to gather all the publishers' global data – no mean feat – this would cover just eight per cent of the overall online and mobile games market. The remaining 92 per cent will be even more problematic.

UKIE wants to add social, MMOGs and mobile, markets with tens of thousands of companies. It will struggle to gather much below the top tier, and geography is another massive barrier. With significant proportions of the market missing and charts largely populated by traditional publishers, this data will inevitably resemble Swiss cheese.

METRICS OF THE TRADE

The next issue surrounds what data is gathered. Accurate sales data for the MMOs, virtual worlds, mobile, browser, streamed, social network and skill games that comprise the bulk of the network games market would obviously be extremely beneficial for the entire industry.

However, sales data would only paint part of the picture. Few companies use just one commercial model these days. The best stack them. Leading casual browser and download games portals for instance use four-to-five models, only one of which is unit sales, so to accurately describe their market (of similar scale to the core PC download market), one must profile them all.

> ***Do you still need to measure your company's commercial success against others in the same field when the field's so varied and the data's so patchy?***

Many commercial models, particularly freemium ones, require a broad range of usage, conversion and payment metrics to provide genuinely useful indications of commercial performance. These metrics are almost never reported, even by listed companies, due to high commercial sensitivity. We gather this data and know that partial snapshots can be misleading. For example, some companies outside Facebook's top 50 MAU/DAU charts would hit the top ten of gross revenues, whereas some top charters are making pocket change.

Equally, MMO companies often quote registered user numbers but these are near-meaningless because they always include lapsed, dormant, single-visit and non-playing users. To fulfil its ambitions of informing contributors' strategic decisions, UKIE will have to provide more than simply a sales chart.

Then there's verification. Gathering data from developers means verifying its accuracy from potentially thousands of companies in different game markets, a daunting task given how rare such disclosure is in network gaming, and how much hype hits the fan of trade media. Definitions are particularly problematic and vary between companies. Unlike social games, where an active user means someone interacting in the last month, on Xbox Live an active user is someone interacting in the previous six. Equalising different accounting policies and establishing common definitions will be demanding to say the least.

Next, there's the apples and oranges problem in an increasingly diverse industry. Would anyone seriously compare Mobage/ngmoco with EA/PopCap without a pile of provisos about differences in commercial models, user bases, territories and so on? A Japanese mobile social company mostly monetising young Japanese adults is fundamentally different to an American cross-platform company mostly monetising American mothers. These are exactly the kind of companies that could be sitting, uncomfortably, alongside each other in a single chart.

THE HOLE PICTURE

UKIE's digital chart comes from the right place but faces formidable challenges, some of which will prove insurmountable. Traditional publishers may prefer Swiss cheese data to none at all, even where there's far more hole than cheese, and there's no doubt that these kinds of charts could be more reliable than the survey-based approaches currently misleading the markets, the dangers of which we have described before.

More fundamentally, do you still need to measure your company's commercial success against others in the same field when the field's so varied and the data's so patchy?

For many, the answer is probably not.

Of course network games companies watch the competition's moves in these continually changing markets, but the best performers improve by comparing themselves not against others but against themselves, continuously optimising performance versus their previous months or weeks.

With the real challenge being understanding their own commercial performance, as opposed to their competitors', many companies may ask why they should share their data at all.

Rick Gibson is a director at Games Investor Consulting, which provides commercial check-ups, strategy and data to games, media and finance companies.
www.gamesinvestor.com

//COMMENT: DESIGN

Advertising cowboys and the new Wild West

by **David Braben**, Frontier Developments

Driver: San Francisco's use of billboards made for a witty parody of typical games advertising. Sadly the relationship between games and advertisers is often no laughing matter

ADVERTISERS ARE LEAVING traditional channels in droves and moving to the internet, and becoming a lot more aggressive as they do so.

It appears their respect for decency – and in some cases possibly the law – seems to have been left behind. Here are two aspects, both apparently new in the last year or so that are pretty shocking, to me at least.

COMMERCIAL PIRACY

I was shocked when I followed a reference in a tweet about a pirated version of one of our iPhone/iPad games, *LostWinds*, to find a link to download a cracked version of the game and an advert for big name brands right alongside – essentially stolen versions of our game were being used – albeit indirectly via an agency – by big brands to entice users to view ads for their products.

In my opinion, this is pretty shocking, but for once the law has something to say about it. My understanding of the Law of Agency in many countries, including England and Wales, is that in most respects if an agent is doing something on behalf of their principal, then as far as the law is concerned the principal themselves are effectively doing it, as their agent can be considered to be standing in their shoes.

That 'principal' may well have a complaint with their agent, but that is not the problem of the third party. If this continues to happen, this might just be a helpful route to discourage such practice of big business thinking the actions of their ad agencies or the sites their agents fund on their behalf are nothing to do with them.

> ***"Stolen versions of our game were being used – albeit indirectly via an agency – by big brands to entice users to view ads for their products."***

Doubtless this is happening with other pirated games too, and not just *LostWinds*. As an industry we need to be vigilant. The particular site in question has now been taken down, but as an industry we need to crack down on it hard as what amounts to commercial piracy like this will kill online sales with time.

COMMERICAL SHADY DEALING

There is another practice I find pretty shocking. Have you ever followed a shortened link, the sort you see a great deal on services like Twitter? I heard from a company selling targeted internet advertising that such shortened links can (and do) capture all sorts of data from the machines that use those links – not just from the person using the service to shorten the link but from everyone that clicks on it thereafter.

I am astonished if this is legal, as there is no way when using these links to opt out of the resultant marketing that can follow, as the information can be harvested at the point of first use, so any after-the-event opt out is too late as the data will already have spread far and wide. This sort of behaviour will damage people's trust, and seems to run roughshod over data protection legislation.

As a rule, our industry has a great, trusting relationship with our fans, and up to now there have been relatively few cases of it being abused.

Fundamentally, the internet can be a great venue for advertising, but we need to be very careful as an industry how we embrace it.

Because we could be embracing an advertising boa constrictor.

David Braben is the founder of Frontier Developments. Best known as the co-creator of *Elite*, Braben has contributed to a number of other projects including *Frontier: Elite II*, *Thrillville*, *LostWinds* and *Kinectimals*. **www.frontier.co.uk**

//COMMENT: MOBILE

A Geeky Boy in A Geeky Boy's Club

by **Will Luton**, Mobile Pie

More women in the industry means more diversity, argues Will Luton, and more diversity means bigger audiences and more success

GAMES DEVELOPMENT has a problem that is pretty hard to ignore. It's so hard to ignore that likely you can look up from this page and draw your own conclusion.

My friend Gemma is an excellent female game designer who recently linked to an industry sausage count with a sorrowful conclusion. The responses to her post meandered between coffee morning 'how awful, dear' and total, utter wibble.

One gentleman, who shrank at the idea of being quoted in print, commented that the core skills required to code were most commonly found in the male brain. So the lower number of female coders was to be expected. This, he claimed, is science.

BAD SCIENCE

Now, I flunked out of a physics degree to pursue a considerably less taxing life choosing the colours of a flying teddy bear's head. However, having read some Ben Goldacre I have the misplaced sense that I am a fully qualified amateur peer reviewer.

What fellow bad science spotters like me will have already noted is the classic hypothesis confusing correlation and causation. Tht little chestnut.

It is almost impossible to separate the influence of nature in these debates. You cannot draw conclusions on gender based purely on perceived physiological differences because the environment of any subject has a heavy influence on it.

Let me give you an example: I had a brilliant childhood with my parents and two sisters.

When I hit age ten, wanting to pass on his technical inclinations, my dad took me to an electronics store and bought me a bag of components, wire and a screwdriver. We started at the basics, soldering and plugging, culminating in the construction of a radio.

> ***"The next step is breaking notions of gender in production like we have in consumption. Women need to see more women working in games."***

One day my sister walked over to the table and asked to join in. "Electronics isn't for girls," dad said. Wow. Electronics is secret boys stuff. In your face stinking, idiot girls.

Now, childhood is a rollercoaster and this boy power up didn't last long. Some time later, looking at the make-up on my mum's shelf I recalled a documentary on the production of wounds for the TV medical drama *Casualty*.

Mum wasn't pleased for my ambitions to become a make-up artist. Make-up wasn't for boys. I felt stupid.

This isn't the fault of my parents; they subscribed to society's misconceived notions of gender and wanted nothing more than for us to fit in. The misconceptions were never considered for question.

I have met excellent female programmers and awful male ones (me). How, then, can we conclude that the female mind is inferior in a subject which society tells them they cannot succeed in? We cannot, because so few ever try. Some people are just bad at coding, no gender or race or nationality is. Just people. Often people are never encouraged to try. Dad also told me he'd met some programmers in the '70s and they were odd.

THIS IS WHAT A FEMINIST LOOKS LIKE

Negativity towards females is in our industry. Female players are derided and abused in online games (Google 'Fat, Ugly or Slutty' for saddening proof) and I have spoken to female executives about the casual sexism and loneliness they've experienced.

This societal discouragement is bundled up with a dearth of positive representation. More often women are the babes at our booth or the strippers at our game launches than our coders, designers or artists.

This can create a self-perpetuating loop which will drag us deeper and deeper into bad representation that we don't realise or refuse to acknowledge, justified as tradition, or defended as harmless. All of this makes it even harder for women to realise the games industry is a place they might like to be, let alone take first steps in. And yet we have a great opportunity to redress the balance.

Already games market demographic is now much more diverse than it was 10 years ago. We have over three female to every two male players in our gender-neutral game *My Star*. However, the team behind it was entirely male.

The next step is breaking notions of gender in production like we have in consumption. Women need to see more women working in games before more feel like it is a career path for them.

Right now we're leaving half of the potential talent at our disposal untapped. Gender equality is moving quickly and the companies that close their eyes and ears to it will be left behind. Diverse workplaces create diverse solutions to previously unseen problems, meaning amazing products, which drives bigger audiences and more success.

I truly want to leave this geeky boy's club and instead join the geeky people's club. I hope you do too.

Will Luton is creative director at the award-winning boutique studio Mobile Pie. They create delicious own IP and work on licenses, with a partner list that includes the BBC, Orange and Hewlett-Packard. Follow Will on Twitter at @will_luton, or visit **www.mobilepie.com**

//COMMENT: STUDIO MANAGEMENT

Hard data

Tim Heaton, The Creative Assembly

THE BRIGHT NEW future is data driven. Big dataset management, statistical analysis and visualisation of data are key skills in the future of business and will become more and more valuable. Many huge corporations are based upon data analysis at their core, and they take that in all kinds of interesting directions. From Google.org's flu tracking based upon search queries, through Sergey Brin's part-personal search for the key to Parkinson's Disease using data rather than traditional medical analysis, to Zynga and the real-time data feeds from its games, analysis of data is the new rock and roll.

We have a telemetry team here at CA, including a head of data for the studio, and although it may sound a very specific, specialised and perhaps dry role, it's actually one of the widest and most progressive functions in the company.

Here are three examples of where relatively heavyweight data mining is making a difference for us.

TOTAL WAR
SHOGUN 2
What's happened since launch? Let's just say our players have been busy...
Generals bribed
10.5 million
Most played Clan
Shimazu
Samurai slain in battle
159 billion
That's enough dead Samurai laid end to end to reach the moon and back 45 times
Samurai trained
393 billion
56 times the population of the earth
Riots incited
10.4 million
That's a cost of £10.4 billion to the London taxpayer
Campaign Battles Fought
200 million
Average campaigns played by a player
7.1
Combined play time
1754 years
On a single player continuously since 256 AD
Generals assassinated by Ninja
24 million
3 times the population of New York

Each game in the Total War series produces a wealth of data which The Creative Assembly team can use to better refine their products

THE DEVIL'S IN THE DATA

Firstly, within *Total War: Shogun 2* we have a metrics system that has gathered 1.2 Tb of data so far. None of this data is linked to an individual user, but it is hugely valuable. We have a large private Beta test team, so prior to launch we use the data they generate to help tweak and balance the game. Post-launch we can see every element of how the game is played – from how long players are engaged and where they drop out and favourite game modes, down to individual battle, army and unit actions. There are so many combinations of gameplay in *Total War* that the only real way to understand how they all combine is to suck it and see. For example, since *Shogun 2's* launch there have been 200,388,936 battles involving 393,413,982,039 samurai, of which 159,280,995,410 were slain. Players have played for 1,754 combined years in total. We feed the analysis of this kind of stuff back into the design and technical teams, and it's then up to them to use it as they see fit.

Secondly, it used to be that you finished developing a game, put it in a box, and waited perhaps three months for a statement accounting for your sales numbers. Certainly you'd never be totally clear week-to-week about the numbers you were selling worldwide – it takes significant amounts of time for retailers to feedback on sell-through. On PC, those days are gone. Because of digital distribution, and *Total War's* registration through Steam, we can see large amounts of data in time-frames totally unheard of five years ago. It gives us a window into sales patterns that we can use to understand how people consume *Total War*. Again, none of this is linked to an individual user, but we can see hour-to-hour data of purchasing and play. This means we can understand what effect promotions have, how our pre-orders are working, even down to individual reviews and how they affect online purchases over the next few hours and days. We can also see patterns in how people purchase across the different *Total War* titles, and how they engage with extra downloadable content – do they buy available downloadable content when they start playing a new *Total War* game, or do they wait a while and get into it first? And how long do they wait? We know, but we're not telling.

> ***"I have no doubt we can make better games, more efficiently and with more focus when we supplement the craft of creating games with some hard data."***

And thirdly, the use of data within the production process is also vital. We have project management systems, used slightly differently between the *Alien* game and *Total War*, with bespoke data systems added onto a commercial package.

A TEST OF DATA

However, a good example of data analysis is the reporting from our bug database system during final testing phases. *Total War* is a highly complex game and at Alpha there are potentially thousands of issues, being dealt with by 200 or more developers and testers.

With *Total War: Empire* we struggled to manage to fix all those bugs in the time we had available. Since then we've added person-by-person analysis of progress combined with future forecasting. We analyse individual fix rates, fix success rates, and knock-on rates. By adding in defect capture rates, regression rates etcetera, we can manage build frequencies, triage certain bugs, and add help where it is needed. We never use this analysis as a stick. We never confront individuals with 'you're not fixing enough bugs'. It just allows us to see bottlenecks and add extra resource, and also to forecast ahead based on data that can't be argued with.

I spoke to a friend who had created games for Facebook . He explained rule number one. 'It's not about the game. Don't worry too much about that. It's only about the data.'

We at CA will never feel like that. It's all about the game, and about the individuals who make it and play it and their insights and passions and experience. But, I have no doubt that we can make better games, more efficiently and with more focus when we supplement the craft of creating games with some hard data.

Tim Heaton is studio director at The Creative Assembly, the UK-founded studio behind the acclaimed *Total War* series of PC games, as well as numerous other works including original and licensed products. **www.creative-assembly.co.uk**

THE MONTH AHEAD

A look at what April has in store for the industry and beyond

APRIL 7TH
World Health Day. With general hygiene in the industry on the up, it's time for everyone else to scrub up.

APRIL 13TH
Pandora's Tower. Another Japanese RPG gets a European release, this time in a fantasy setting. Oh.

APRIL 23RD
World Book and Copyright Day. We know, we know. Exciting stuff. Especially the copyright celebrations.

APRIL 27TH
Secrets of the Titanic. Yes, it's a video game. We'll leave you to make up a gag about it sinking or not right here.

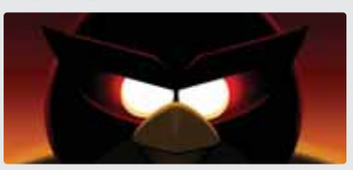
APRIL 8TH
Easter Sunday. Time to stuff your faces with too much chocolate, but in the name of religion, of course.

APRIL 19TH
Festival of Games. A business networking event for those working in the digital games industry.

APRIL 24TH
Prototype 2. Add up all of your games magazines, and count how many have used this as their cover. Four? Five?

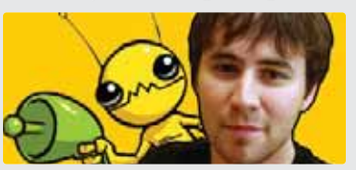
APRIL 28TH
Space Tourism's Anniversary. It's been going on for over a decade now. One day we'll all get a go.

APRIL 11TH
The Gadget Show Live. A chance for consumers to see the latest advancements in technologyhistory.



APRIL 20TH
Angry Birds Space PC. Another format and – surely – another triumph ahead for Finnish studio Rovio.

APRIL 25TH
East Coast Game Conference 2012. More talks and sessions on games development from an event now in its fourth year.



APRIL 30TH
Tom Fulp's birthday. That's right; he who set up Newgrounds. How many of you owe him a present?

DEVELOP DIARY

Your complete games development event calendar for the months ahead

GAMEHORIZON
June 27th to 28th
Newcastle, UK
www.gamehorizonconference.com

The annual GameHorizon conference in Newcastle brings together a wealth of speakers from across the global games industry to tackle key issues, network and socialise.

Its goal is to facilitate more collaboration, improve knowledge and increase local and international trade for UK-based games companies.

Like last year, the two-day event will be held at the Sage Gateshead building, and bring together developers, publishers, middleware firms and other service providers.

APRIL 2012

THE GADGET SHOW LIVE
April 11th to 15th
Birmingham, UK
www.gadgetshowlive.net

MCV INDUSTRY EXCELLENCE AWARDS 2012
April 19th
London, UK
www.mcvuk.com

FESTIVAL OF GAMES
April 19th to 20th
Utrecht, Netherlands
www.festivalofgames.nl

MAY 2012

DEVELOP QUIZ 2012
May 16th
London, UK
www.develop-online.net

CASUAL CONNECT ASIA
May 22nd to 24th
Suntec, Singapore
asia.casualconnect.org

NORDIC GAME 2012
May 23rd to 25th
Malmo, Sweden
nordicgame.com

JUNE 2012

E3 EXPO
June 5th to 7th
Los Angeles, US
www.e3expo.com

UBIQ PARIS
June 18th to 19th
Paris, France
www.ubiq-europe.com

GAMEHORIZON
June 27th to 28th
Newcastle, UK
www.gamehorizonconference.com

JULY 2012

DEVELOP CONFERENCE
July 10th to 12th
Brighton, UK
www.develop-conference.com

DEVELOP INDUSTRY EXCELLENCE AWARDS 2012
July 11th
Brighton, UK
www.develop-online.net

AUGUST 2012

EDIBURGH INTERACTIVE 12
August 9th to 10th
Edinburgh, UK
www.edinburghinteractive.co.uk

GDC EUROPE
August 13th to 15th
Cologne, Germany
www.gdceurope.com

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BETA

DEVELOPMENT FEATURES, INTERVIEWS, ESSAYS & MORE

UK tax breaks. The time has come

After years of effort they are finally here. But how will they work, and what do they mean for studios big and small? p18

Developing for PS Vita
p22

Games localisation in focus
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The history of Grand Theft Auto
p36

After the party

With the celebrations about UK games developers getting tax breaks out of the way, what happens next? The Develop team finds out

After several years of trying to win over the UK government, tax breaks are finally coming for studios based in the country

INSTANT REACTION TO the 2012 UK Budget, which announced plans for a games production tax break, was of course jubilant.

But across the swathes of quotes and testimonials the *Develop* team collated in the days following March 21st, one lingering question remained for most in the industry: what happens next?

And then, as many said to us: "The Devil's In The Details".

A tax break for video games made in the UK has been long fought for. While Canadian provinces have exploded off the back of state subsidies, British games development has fractured and shrunk. We are still strong, but we are weaker than we once were.

So can a tax break rejuvenate the United Kingdom's games industry? What has to happen to get the tax break from proposal to law? And how will it be implemented?

Develop, with help from the Department for Culture Media and Sport, UKIE and TIGA, plus studios large and small from across the UK, has some answers. You might not like all of them, but you need to know.

FIRSTLY: WHY DID THE GOVERNMENT CHANGE ITS MIND?

The industry was told it was getting tax breaks back in 2010 by the eventually outgoing Labour government. Then the Lib Dem/Conservative coalition government cancelled that. Why the U-turn?

The question is answered best by Ed Vaizey, Minister for Culture, Communications and Creative Industries at Westminster's DCMS.

He says that along with mounting lobbying from the games industry, "some big companies made it quite clear they would seriously consider investing heavily in the UK if there was a tax break. Big TV companies on the West Coast of the US said they would be interested too, as did the animation outfits.

"So it has been a coalition of the willing, that put together a very convincing case to the Treasury."

Plus, the Chancellor saw the opportunity for something bigger than 'just' a games tax break, says Vaizey. When the coalition first pushed aside Labour's tax break, it was described as poorly targeted. The new one should coincide with similar tax credits for animation and TV firms.

"Two years ago the Chancellor's other concern was' can you give a tax break to one sector when the converged world of TV, film, games and animation is much bigger?'. One tax break for games – he just wasn't convinced. But also the economic climate at the time was on his mind. The bigger win, the bigger tax break we are moving towards, is much more attractive to him."

Other motivations came into play, too, says Vaizey: "A lot of studios in the US and Canada said to us that they are still interested. Even though they are in Canada, they see the UK as a potential European hub. That all adds to the attraction of the tax break. It's a great incentive for companies to know that they will get all that support, plus access to Europe."

Certainly, the bosses of entertainment and games firms were delighted by the news:

"This announcement is great news for the UK's creative industries," said Josh Berger, president and managing director, Warner Bros. Entertainment UK, Ireland and Spain.

"As major investors in UK TV, film and video games production we welcome all measures aimed at supporting the UK to further develop and sustain its strong position in these key creative sectors."

Ubisoft was likewise delighted - it has built many of its studios in regions with Government subsidies, and has a UK studio ripe for expansion.

"We're delighted that the Government has announced its intention today to provide production tax credits for the UK games industry," said Rob Cooper, UK MD.

"This gives recognition to the wealth of creative development talent in the UK and will allow publishers to continue to support UK studios. The UK has always been a leading market in gaming, and with this support from the Government, we can continue to be competitive within the global landscape."

And then there's the big one – Bobby Kotick, the Activision Blizzard boss who publicly dressed down the coalition Government for its initial U-turn and hinted that his entire UK operation could move elsewhere in Europe.

"This is a great first step and should put the UK in a stronger position to compete with other countries offering incentives for video games production," he said. "The UK is an important centre for development talent, employing 9,000 people in the video games sector, and anything that promotes further investment should be welcomed."

HOW DOES THE CONSULTATION PERIOD WORK?

The proposed tax break would be part of the 2013 Budget – it's not a process that happens overnight, and takes 12 months to implement. In the meantime the Government will open a consultation period to allow the games industry to help shape the resulting subsidy.

Vaizey says that, broadly, this is to "put a realistic case to Government and have to show how the tax credit can work in practical ways".

But he points to the already existing Film Tax Credit as the direction to take.

Proposals from trade bodies and other lobbyists have cited the Film Tax Break as the model to adopt too.

"The Treasury will be concerned about tax avoidance, so that must be addressed – but I think the film credit works extremely well, so the industry should look to the film tax credit and how that works. The games industry needs to look at that and say 'how can we take that model and apply it to our industry?'. The latest version of that is four or five years old and works incredibly well as it has prior approval from the treasury, and that avoids those tax avoidance schemes and means all projects that benefit get prior approval from the treasury. There are cultural tests in there which stipulate production in the UK. It's important people understand there is a cultural test element and that they can start making games with a British flavour."

In the meantime, there is a good chance that a games industry working group will be established to shape the proposal for the EU. European Commission approval is needed for any law like this, as they otherwise have strict rules on state aid.

So, taking cues from the Film Tax Break, the group will write up a comprehensive proposal that covers a range of elements; What is the legal definition of a game? What kind of studios should benefit proportionally from the tax break pool? Under what grounds should the DCMS apply for a derogation to the EU treaty on state aid?

> ***"This is a great first step and should put the UK in a stronger position to compete with other countries."***
>
> Bobby Kotick, Activision

THE CULTURAL QUESTION

Debate rages as to whether or not the cultural element will play a serious part in defining the new tax break.

At the time of going to press, the cultural exemption with regards to games no longer actually exists in France or Europe. Back in 2007 game tax breaks were recognised as an exception to state aid until 2012, paving the way for France's own games tax break, but earlier this year the ruling expired. A reintroduction of the measure in France must be approved by Wouter Pieke, the European Commission Directorate General for Competition, but discussions between Pieke and French officials are thought to have tangled over several issues. The European Games Developer Federation is hopeful for a resolution. *Develop* has heard there is a chance this will not materialise.

But if it does, the sometimes thorny issue of what makes a game cultural is raised. In separate instances legal firm Olswang and trade body TIGA have submitted proposals that outline how a game could be subject to a 'cultural test' to prove how British it is.

Points would be awarded for various aspects such as…

- Is the video game based on locations or historical events in Europe/Britain, or material or activities (a film, a book, an artistic work, a sport)

that originated in Europe/Britain?
- Is the game in the English language?
- Is it an original game that contributes to British culture?
- Does it have a strong British story?
- How innovative is the game?
- Does the game reflect British culture, creativity and/or heritage?
- How much of the game is made in the UK?
- Are the staff directing the project British or British citizens?

After that, the points are totted up and either an exclusive yes/no or a sliding scale could decide how much qualifying projects get. It's hard to know exactly how this works at this point – that's what the consultation period should help hammer out. But pre-written proposals – plus the Film Tax Break – already exist, and will point the way forward.

ONCE IT'S LAW, WHAT WILL WE GET?

First, let's talk money.

Preliminary figures from the Treasury say the games tax break fund will be £15m in year one and £35m in year two.

However, can the industry argue for more cash during the consultation period?

Vaizey isn't sure. "Those numbers are rough costs and they will be honed down during the consultation period so that the Treasury is confident about the cost implication of the tax credit. But people need to be realistic about what the Government can afford and what we can get out of the Treasury – we mustn't ask for the Earth."

Most in the industry will argue that still, £50m in two years isn't much for video games – a couple of large-scale projects from big publishers would eat it all up.

But the tax break would hopefully be balanced enough to ensure that businesses of all scale get a crack at the applying for funds. Indeed, it's likely the Government will know that this part will be closely watched and will have to support new businesses as well as incumbents. Indeed, TIGA says that the Government will get hundreds of proposals a year from studios big and small.

TIGA's proposal also draws a line in the sand for big and small projects. It suggests a 20 per cent tax relief on production costs for games costing more than £3m to produce and 25 per cent on games costing between £50,000 and £3m. Expect this kind of reasoning to find its way into the final implementation of the Finance Bill next year.

As for how the money is handed out… Many in the industry predict a creative industries council would be established. This would be a group working with the DCMS, and perhaps including a few of its civil servants, that would organise where the money goes. TIGA of course wants its members in such a council. So does UKIE. Olswang, which was one of the organisations lobbying for the tax break, may do too. The creative industries council would cover TV, animation and film all together. It it would probably fill a quango hole left by the now abandoned UK Film Council.

That said, the Government may hand over ruling power to an industry group Ian Livingstone chairs – there's a chance this could be used to determine who gets what to avoid the formation of an extra body.

"In terms of what it means for the industry in the UK, it's great to get some help to level out the internationally competitive marketplace. It's no silver bullet though, and the inherent challenges of a sector changing so rapidly will continue to drive the successes and failures along the way."

Pete Samuels,
CEO, Supermassive Games

"Any type of funding or financial help coming into the UK has to be a good thing. But more than that though, the government formally recognising the games industry is a fantastic breakthrough."

Trevor Williams,
CEO, Playground Games

"The Devil is in the detail; unless the incentives are of a similar scale, easy to administer, applied fairly to both production and services as they are in Canada, I fear that this will just end up as more talk than action, and fail to reverse the brain drain."

Richard Leinfellner,
CEO, Babel Media

"This tax break provides an immediate boost to active businesses, whilst also supporting the long term development of the industry as a whole. Arguably, this decision has arrived late. We're still confident though that with close cooperation between game developers and the government, we can re-establish the UK as a leader of the video games industry."

Imre Jele,
Creator-In-Chief, Bossa Studios

> ***"People need to be realistic about what the Government can afford and what we can get out of the Treasury."***
>
> Ed Vaizey, DCMS

But maybe thinking about the tax break in purely fiscal terms is mistake. The Government has chosen the subsidy as part of an overall – and hugely Conservative-themed – strategy to 'earn' the country's way back to the top of the world power league.

"Do we watch the Brazils and Chinas of the world power ahead of us? Do we want to be left behind?" said Chancellor George Osborne in his Budget speech. Indeed, the tax break is as much a statement of intent as it is an actual pot of gold.

"That's an important point and why I've always supported a tax break," Vaizey tells *Develop*. "There are some people that argue a tax break is not fundamental to their business or it might not have an impact for online games forms, or so on. What it does definitely do over and above for all of the games industry is prove that we have policy showing the UK government takes the games industry seriously and wants to see investment there."

BRILLIANT! SO THIS WILL HELP US SEE OFF THE CANADIAN MENACE, THEN?

Well, no. The tax breaks won't be as rewarding as they are in Canada.

"We'll never quite get to the level Canada has," says Vaizey. "If you did a line by line analysis to see you might be a little better off in another jurisdiction."

But he pushes that question back to the wider point – a tax break for games can offer a halo effect for the entire games industry.

"If you add the UK tax break to our mix of skills and creativity, plus the fact that a lot of studios in the US and Canada said to us that they are still interested in the UK… It's a great incentive for companies to know that they will get all that support, plus access to Europe."

"This is a big and important step towards allowing the UK to compete on a level playing field with heavily supported countries such as Canada."

Torsten Reil ,
CEO, Natural Motion

"The games tax break will open up new avenues of games financing for developers and publishers. However, it's at least a year off yet: the government needs to consult with the games industry about how to solve the significant legal and practical issues in order to make the tax break a reality, as well as obtain EU legal approval – which could take some time."

Jas Purwal,
lawyer, Osborne Clarke

"While there is more to do, this is a critical first step and reassures UK-based games businesses that the Government is serious about securing, protecting and creating further high skilled jobs in this important sector, which now represents the largest entertainment industry sector in the world."

Jasper Smith,
CEO, PlayJam

"Accessing the tax relief will help a games design business more efficiently manage its development plans: many designs obviously never get off the ground and so companies face long periods of expenditure without, until now, any income."

Sue Crawford,
Partner and Head of the Tax Group, Wiggin LLP

"For me, the money would be best spent on new start-ups at seed stage, not on allowing ageing corporates to tread water as their market share declines. The industry is at an incredible juncture right now and we have the potential to create large disruptive companies on our own soil that will go on to be world leaders, employ many and put big chunks of tax back in to the state"

Will Luton,
Creative Director, Mobile Pie

"Tax breaks can certainly be very effective tools for growing a games industry. They are also important signifiers that governments are actually supportive of the industry. But with tax measures, the Devil is in the details. Their utility really depends on how well they are set up, how easy they are to access, and how much flexibility is allowed anticipating future shifts in the ever changing nature of the industry."

Ian Kelso,
CEO, Canadian interactive Alliance

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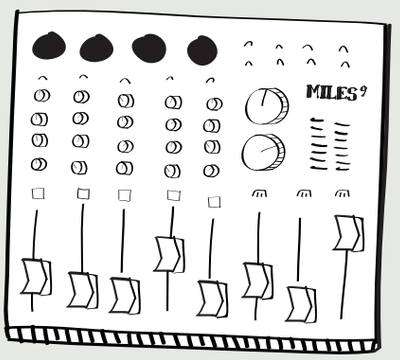

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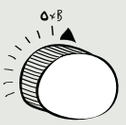

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An easy touch?

Just how tough is making your first game for the PS Vita? According to a number of Ubisoft studios, it's a surprisingly welcoming process. **Will Freeman** finds out more

Ubisoft Reflections director of technology Michael Troughton says the work the studio did on Rayman Origins (above) owes much to profiling tool Razor

THE CLICHÉ ABOUT developing for Sony platforms is a pervasive myth.

It's something we've all heard time and again, and even consumers with an interest in the making of games are aware of it.

The stereotype? Developing games for a PlayStation brand system is hard; very hard indeed. While there's a degree of hyperbole to the accusation, for first-timers in particular, developing for the PS2 and PS3 was – and is – infamously testing.

Surely then, the logic must apply to the PS Vita? Inaccessibly powerful machines, after all, have become something of a speciality of Sony's. At least that's what the company's detractors would have you believe.

However, speak with many of the teams who have now completed Vita projects, and you'll hear something pleasantly surprising. It may be that making a game for Sony's new handheld is – relative to the typically elaborate process of development – a little on the easy side.

PURE AND SIMPLE

Take the experiences of senior staff at the various Ubisoft teams with Vita projects in the can, for example. For Ubisoft Reflections, Ubisoft Casablanca and Q Entertainment, making games for the handheld marked a big turning point in their perception of Sony's platforms.

"The PlayStation 2, which was a very powerful system for its time, and the PlayStation 3, which continued that trend with the cell processor and the asymmetrical multi-core approach, were some of the most powerful and complex machines that the market has ever seen," explains Ubisoft Reflections director of technology Michael Troughton, who worked on Vita releases *Rayman: Origins* and *Lumines Electric Symphony*. "Developers had to really apply themselves if they wanted to get the most out of them."

Now, says Troughton, that trend has been bucked, thanks to the Vita adopting a far more 'conventional' structure. Boasting a symmetrical four-core CPU and PowerVR GPU in a single SoC, or 'system-on-chip', the device appears to deliver impressive power without obstructing the work of developers eager to build games for the system.

> ***"We were pleasantly surprised by the quality of the development environment. They are fast and really easy to use."***
>
> Boujemaa El Hiba, Ubisoft

"The Vita has been relatively 'easy' to develop for," agrees James Mielke, Q Entertainment's *Lumines* producer. While Mielke admits a lack of programming experience makes it hard for him to delve into the most technical of details, he has observed his team make very quick work of establishing a build of their game within the Vita development environment.

"When we started *Lumines Electronic Symphony* we were actually able to begin development on PC, and once the Vita dev kits were in our hands, we were able to get the game moved over to our dev units very quickly," he adds.

And over at Ubisoft Casablanca, where producer Boujemaa El Hiba worked on *Rayman: Origins*, there is equal positivity.

"We were pleasantly surprised by the quality of the development environment on Vita," admits El Hiba. "They are fast and really easy to use. The documentation is also good."

IN PROFILE

Such a wealth of optimism is encouraging, but it will take more than familiar architecture to convince some developers that it's worth betting budget, manpower and resource on making a game for the Vita.

Sceptics, however, would be wise to consider the Vita development environment, for it is that, say the Ubisoft staff, that is a large part of the reason they were so besotted by the platform.

"The work we did at Reflections on *Rayman Origins* and *Lumines* was targeted at performance optimisations, and the powerful profiling tools available such as Razor were invaluable," offers Troughton.

"Razor goes far beyond any tools available to other mobile platform developers. It allows you to drill down in minute detail, or examine performance at a higher level, and because a lot of the performance capturing is done in hardware with a memory pool disjoint from the development ram it's quite non-intrusive."

Some of Ubisoft's PS Vita launch games (clockwise from top-left): Asphalt Injection, Dungeon Hunter Alliance, Michael Jackson: The Experience and Lumines Electric Symphony

And, says Troughton, with Sony relying on SPU processing power to drive the audio capabilities of the PS3, the fact that they opted to include a dedicated codec engine to drive the audio on Vita makes for an interesting decision that enables for the potential of an especially detailed sound experience.

"Sony have backed this up with some excellent tools and libraries, such as Sulpha, the audio debugging and analysis tool," Troughton suggests.

El Hiba, who also sings the praises of Razor – in his case for its ability with CPU and GPU and the help it provided in hitting 60fps – has equally kind things to say of SN System's SN-DBS, which he says saved his team a substantial amount of time with its distributed build abilities.

To paint too kind a picture of the experience of developing for Vita, though, would be to do those considering the platform a disservice, for it is not without difficulty. Back touch pads and other eccentric hardware features, after all, don't make for an unquestionably simple development process.

"One of our biggest challenges was wrestling with all of the new functionality – Near, the Vita's social tools, etcetera – while various testing environments, like a useable 3G network, were still in various stages of completion and readiness," admits Mielke.

"Fortunately we had a lot of excellent technical support from our publisher Ubisoft, who lent their expertise in a variety of areas to help our programmers with optimising the game's performance. Sony's developer network was also a huge help for us in tackling any technical issues we had along the way."

APPLE IN ITS EYE

And it is that functionality, of course, that provides opportunity in abundance.

A pair of touchscreens, dual analogue sticks, twin cameras, a magnetometer and the Vita's various other functions make for a potent combination.

> ***"Not only is PS Vita a powerful system in its own right, but as a fixed platform it's much easier for devs to really push the hardware."***
>
> Michael Troughton, Ubisoft

This gives developers a potential surfeit of options in contrast to the tablet and mobile platforms that, while having a far higher installed user base, offer crowded marketplaces and typically a lack of physical buttons.

In fact, according to Troughton, there's another significant factor that, from one perspective, makes developing for Vita 'easier' than making games for that bastion of accessibility, iOS.

"Not only is PS Vita a powerful system in its own right, but as a fixed platform it's much easier for developers to really push the hardware as they only have one set of specs to worry about, rather than several iterations of iOS hardware, or the minefield of different Android hardware configurations," says the quite possibly smitten Ubisoft Reflections director of technology.

"The developer tools and libraries also make it possible to get much closer to the metal than other mobile platforms."

If Troughton and his globally scattered colleagues are to be believed, then the Vita really may be Sony's first console to finally put an end to those aforementioned clichés.

And if that happens, it could be the Vita's saving grace. If the platform has one key challenge, it is building a software catalogue both varied and expansive enough to tempt consumers to put down their smartphone and pick up a device physically centred around gaming; a tough task given mobile's apparent domination of the market.

A user friendly, low friction developer environment, in conjunction with the likes of Sony's indie-centric Pub Fund, which matches the development costs of a game project in return for varying degrees of exclusivity, could mean that the PS Vita can attract a variety of studios from beyond the realm of the triple-A studio giants.

Aside from giving the new handheld a fighting chance at a time when mobile gaming has overshadowed handhelds in the consumer conscience, it means through simplicity, Sony's Vita might just present a significant new opportunity for developers across the world.

wave®

Sound Design and Audio Post Production

For all the world

As games penetrate every corner of the Earth on an increasing array of platforms, the art of localisation has never been more intricate. **Will Freeman** talks to the specialty's best about adapting games for the global stage

THE PRACTICE OF localising games long ago shook the misconception that it is merely about the act of translating games.

And yet, such is the pace of today's increasingly globalised games industry, localisation is constantly moving forward, having to adapt and expand the remit of the services it incorporates. As a result, the perception of what localisation is still lags behind the reality.

Things are changing, and doing so fast. So quickly, in fact, that there is little time for localising firms to consider the past. All eyes look forward, as the market expands at an exponential rate, and the pressure to maintain quality increases.

"In the past, localisation was seen as an element of a title tacked on at the end of production, often without any human input and using a translation tool," explains Alastair Harsant, vice president of operations for Games Services at Testronic. "We are now at the stage where each territory and locale must be seen with the same amount of importance. If a title needs to be localised, then it must be done well."

> ***"Currently for Facebook, some of our clients are localising into over 40 languages, all in real time."***
> Vickie Peggs, Universally Speaking

New territories worthy of quality localisation are on the rise, and the new wave of ubiquitous platforms mean more opportunity than ever before.

"The increasing localisation of games for developing markets – in terms of penetration of video games – is very good to see," offers Keywords International CEO Andrew Day. "Likewise, the very rapid transition to high quality localisation for social, mobile, casual, and free-to-play MMOs that we have witnessed over the last two years is very encouraging, and proof that in a very competitive environment, quality counts more than ever."

Platforms like Facebook, browser and iOS now mean it is easier for developers to reach wider audiences geographically, and self-publishing and digital distribution are letting studios cross more national and cultural borders than ever.

"As a result the desire and potential for localisation demand has increased," offers Localize Direct's business development director Michael Souto. "There are countries which normally would not have received a localised version at retail but now can."

"Lately we have seen a change in the industry where publishers are trying to get into emerging markets so it is no longer just about FIGS – French, Italian, German, Spanish – but about including territories like Poland, Brazil, Asia and Turkey for instance," adds Richard Sturgess, senior business manager of Alpha CRC's Games Division

The boom in social and Facebook gaming, spearheaded by titles like Zynga's CityVille, has drastically changed the way localisation services operate

SOCIAL CLIMBING

And the more countries there are demanding specifically tailored games, the more the need for a presence globally, insists U-Trax president and founder Richard van der Giessen.

"We feel this can only be done by creating local offices with local linguistic experts for translation and marketing, then gradually expanding with in-house recordings studios for voice production," he says.

What's more, the rise of social and mobile has created a new approach to pricing games that also happens to mean there is now a lot more work – and responsibility – for games developers. Combined with the ubiquity of smartphones, the 69p app means that games of less than 5,000 words of dialogue are suddenly worth translating into less common languages, simply because it is 'easier' to make money back with games marketed at such a low price point in new territories than with a full-priced triple-A boxed product.

"Following the explosion of browser, online, iOS and Android markets we are seeing a shift in direction away from the traditional 'norms' and recognising a global swing in adoption to new markets, new territories and new trends," says Vickie Peggs, MD of Universally speaking.

"Currently for Facebook, some of our clients are localising into over 40 languages, all in real time, with continually streamed new content and live testing," she adds.

"A successful Facebook title can reach tens of millions of end users across the globe. A successful localisation strategy combined with

Top to Bottom: Adam Asnes of Lingoport, Babel's Richard Leinfeller, VMC Labs' Chloe Giusti, Localize Direct's Michael Souto, CD Projekt's Mikolaj Szwed, Richard van der Giessen of U-Trax, Alpha CRC's Richard Sturgess, and Xloc's Stephanie O'Malley Deming

The Witcher 2 (above) and StarCraft II (right) demonstrate the potential of thorough localisation and cultural re-appropriation, say those behind the games

INTERNATIONALISING LOCALISATION

Localisation, some will tell you, is but half of the process of globalising contemporary video games.

The other half is internationalisation, which, according to the firms who specialise in the practice, is the process of making a single code base locale-independent so the application can be easily localised to other locales with no source code changes.

"Another way to put this is that the fundamental logic and processing of how software presents and processes information needs to be adapted so it's capable of supporting any language, cultural formatting preferences and processing of data – from the user interface on through the rest of the applications parts, such as databases, data processing and reporting," explains Adam Asnes, CEO of internationalisation firm Lingoport.

"Internationalisation always involves changes to the source code, while localisation primarily involves translation of words presented in the user interface or help files. Before localising software, it first needs to be internationalised."

While some companies include the internationalisation service under the localisation banner, Lingoport has made the practice its specialty.

tailored monetisation will allow for enormous rewards."

As the success of Facebook in different territories can prove to be something of a lottery, good localisation decision making can prove essential to the generation of what Peggs calls 'solid' return on investment.

"I expect the power of the masses all using these social media in their own language will mean an increase in work for localisation agencies," adds van der Giessen on the matter of the new opportunities in the social space.

"Hopefully it helps to finally destroy this false argument that is used throughout the industry for not localising into small and emerging languages like Dutch, Nordic and Hindi, because 'they all speak English so well'. Yes, but not when they are being social or enjoying entertainment. Not localising, in other words, is antisocial."

Social gaming also provides localisers with another prospect; namely that of 'dynamic' user translations, where a potentially crowd-sourced approach sees translations from the public realm quality assured and managed back into a project.

> ***"You need to be smart about what smaller studios need and understand how they work, their priorities, and their capacities."***
>
> Chloe Giusti, VMC Labs

It applies to the social space, says Stephanie O'Malley Deming, co-founder and president of localising specialist Xloc, because in that space "content is constantly being updated and improved, so this seems an inexpensive way for true fans to have an impact on their own gaming experience."

However, the use of what Souto calls 'player generated localisation' must be treated carefully, he warns: "you will need to ensure you have a solid management process as this could get very messy."

However, despite the challenges they present, it is because platforms such as Facebook boast a popularity and ubiquity worldwide that the number of languages that are now easily within reach to even the smallest studios has greatly expanded.

"This has presented new opportunities for localisation, but also many challenges because it is often difficult to find qualified linguists in languages in markets that were previously less accessible," states LAI's president and CEO David Lakritz. "However, the ability to reach those new audiences and interact with them is very exciting."

NO SMALL MATTER

The opportunity for smaller studios to begin localising their games with more reach is certainly a positive development, but it means localisation companies once largely concerned with triple-A games are now having to adapt to meet smaller budgets for studios of a less significant size.

"As direct publishing channels continue to open up and grow, self publishing developers need the services of specialised localisation and testing vendors, but the lack of experience and organisation of the localisation process can present challenges for both parties," admits a frank Day.

However, the solutions are already in place to adapt to that change, believes Richard Leinfellner, CEO of Babel Media. Adapting to suit the needs of smaller studios, he says, can be done "by using technology, by translating smart, and by understanding how to use a client's budget for maximum return."

"That may mean dropping a few languages to do others well, because a poor and/or cheap translation across a wider group of languages just gets you lots of unhappy players, there is lots of great content to choose from and the customers can switch providers with a single click," Leinfellner suggests.

"You need to be smart about what smaller studios need and understand how they work, their priorities, and their capacities. As a service provider, we are here to support companies of all shapes and sizes," adds VMC Labs client solutions executive Chloe Giusti on the matter, who advocates flexibility and efficiency on behalf of the localising service providers looking to work successfully with small developers.

"Localisation providers need to be agile and streamlined," says Souto in agreement. "There are far more games and people making

games out there than ever before. We need to be able to receive, localise and return the content in the most streamlined way possible."

Aside from adapting to meet the needs of social, mobile and smaller creative outfits, localisation firms are also having to adapt their approach to localisation QA.

That's according to CD Projekt's localisation specialist Mikolaj Szwed, who recently worked on *The Witcher 2*.

"Reported bugs not only concern translation-specific issues but other functional stuff such as truncations, level of implementation, sound levels, etcetera," he says. "It's very important to test the localised versions of the game as many of the bugs are not visible during translation until the text and audio is implemented.

CULTURE CLUB

Another impact on the working practices of localisation companies is the matter of what Universally Speaking's Peggs calls 'culturalisation'.

"Think of the works that localisation agencies do as 'culturising or globalising content', both in terms of text, visuals, style, audio, humour right down to very subtle cultural adaptions," suggests Peggs, who admits she finds cultural adaptation of video games "incredibly exciting".

In the modern climate, says Peggs, without having a depth of knowledge of target markets on a cultural level, developers can no longer expect their games to succeed.

"You just need to look at the level of detail *StarCraft II* as an example of a very highly polished, detailed localised project from localised facial lip synching, to full art asset localisation," states Peggs.

And the Universally Speaking boss isn't alone in her enthusiasm for the potential of the culturalisation process.

"Geopolitical and cultural issues are always fascinating, and becoming more prevalent in our industry. By those issues I mean understanding both the political and cultural relevancy of your multicultural audience and how a developer's creative vision can be enhanced by this understanding," offers Xloc's O'Malley Deming. "It's fascinating stuff."

TRANSLATING THE FUTURE

Looking further ahead, as the trends discussed above continue to increase the workload and diversity of responsibilities for localising agencies, there is recognition that smarter tools are an essential part of assuring companies in the highly competitive space a healthy and long-lasting future.

"On the technology side, we have in our armoury more tools than ever before, and whether that is building glossaries, or databases of hardware manufacturer's terms, through to tools that allow clients to 'check in' and 'check out' files 24-seven, through to great tools for extracting and integrating text into the game, it is the technology that is bringing the biggest leaps forward and also savings to the client," says Babel's Leinfellner,

And it is those tools, claims VMC Lab's Giusti, that through being integrated in the actual development process, can future-proof localisation services.

"More people are now doing it, and this means you are making bug fixing a whole lot easier and faster," says Giusti. "You still need to provide clean context to your translation team and you still need native language testers to conduct your localisation QA, but the pace of bug fixing and the time it will take your dev team to turn around a clean fresh localisation build is much reduced."

THE ONLY WAY IS UP

If the world's games localisation specialists share one thing, it is optimism. The opportunities presenting themselves are manifold, and business is certainly booming. There is a lot of work to do, but that is no bad thing.

"The future seems very exciting indeed," concludes Testronic's Harsant. "Cloud computing and gaming will surely push the boundaries of what we currently perceive as the three big territories. With that will come a new means for millions of people to access triple-A titles, and they will no longer be bound by the limits of the hardware."

Positivity, it appears, is something unlikely to get lost in translation.

LOCAL KNOWLEDGE

Key localisation experts offer advice for development studios looking to get the most they can from working with a localisation company

"Select the agency you work with carefully, check out their pedigree in games and the range of clients that work with them and the length of those relationship. Once you feel happy with your selection, engage with them, allow them to be part of your team and ensure you give them everything they need, to deliver back to you an excellent level of work."

Vickie Peggs,
MD, Universally Speaking

"Give the localisation vendor as much visibility as possible as early in the development cycle as possible. Even though schedules are likely to change, advance notice of what is coming up is always valuable and provides a chance for an interchange of ideas and advice to help the localisation process run smoothly."

Andrew Day,
CEO, Keywords International

"Understand the localisation provider's process and workflow, so that you can decide the best ways to make it fit within your own development pipeline."

David Lakritz,
President and CEO, LAI

"Communicate, communicate and communicate. The more information you provide about your game, the easier it will be for the localisation professionals to get a feel for it and achieve a product that maintains the spirit of the original."

Silvia Ferrero,
Director, MediaLoc

"Communication is without doubt the most important single factor in the relationship. The producer must be upfront with the localisation company and provide timelines and budget constraints. Likewise the localisation company needs to ask the right questions in order to meet the timelines and budget constraints."

Alastair Harsant,
Vice President of Operations for Games Services, Testronic

DEVELOP AWARDS COUNTDOWN TO JULY

This July will see the best there are from the European development sector converge in Brighton for the prestigious annual Develop Awards. Want to know how to be a winner for the 2012 event? Then read on

// THE CATEGORIES 2012

CREATIVITY

- New IP
- Use of a Licence or IP
- Narrative Design
- Visual Arts
- Audio Accomplishment
- Publishing Hero

TECHNOLOGY & SERVICES

- Technical Innovation
- Use of Online
- Tools Provider
- Engine
- Audio Outsourcer
- Visual Outsourcer
- Services
- Recruitment Company

STUDIOS

- New Studio
- Business Development
- Micro Studio
- Independent Studio
- In-House Studio

SPECIAL RECOGNITION

- Development Legend
- Grand Prix

Mind Candy's Michael Acton Smith

// CREATIVITY

NEW IP

WHO'S ELIGIBLE?
Any UK or European studio-made IP released in the last year and first premiering as a boxed retail product which has introduced an original brand plus new gameplay aspects and/or original characters to consoles, portable devices or PC.

LAST YEAR'S WINNER
Enslaved (Ninja Theory)

PREVIOUS WINNERS
2010: *Heavy Rain (Quantic Dream)*
2009: *LittleBigPlanet* (Media Molecule)
2008: *Lost Winds* (Frontier Developments)
2007: *MotorStorm* (Evolution/SCEE)

USE OF A LICENCE OR IP

WHO'S ELIGIBLE?
Any game released in the previous 12 months by a UK or European studio that is a proven quality title but is based on an external property (licensed or otherwise) not owned or created by its developer.

LAST YEAR'S WINNER
F1 2010 (Codemasters Birmingham)

PREVIOUS WINNERS
2010: *Batman: Arkham Asylum* (Rocksteady Studios)
2009: *LEGO Batman* (Traveller's Tales)
2008: *LEGO Indiana Jones* (Traveller's Tales)
2007: *LEGO Star Wars II* (Traveller's Tales)

NARRATIVE DESIGN

WHO'S ELIGIBLE?
For this new award any game that has made clear efforts to balance and combine storytelling and gameplay design is eligible. Finalists will be those games which have successfully mixed narrative into the interactive experience. A project's specific writers will be credited where possible. Both boxed and download games can be considered for this award.

DIARY DATE: DEVELOP INDUSTRY EXCELLENCE AWARDS
Wednesday, July 11th, 2012

Media Molecule's Mark Healey and Siobhan Reddy

Rovio's Ville Heijari

Mojang Specifications' Daniel Kaplan and Markus Persson

Valve's Gabe Newell

VISUAL ARTS

WHO'S ELIGIBLE?
Any UK or European studio that has demonstrated impressive graphical and/or distinct, iconic design work in the games or gaming content it has produced and released during the past year.

LAST YEAR'S WINNER
Limbo (Playdead)

PREVIOUS WINNERS (BEST ART & AUDIO)
2010: *Split/Second* (Black Rock Studio)
2009: *LittleBigPlanet (*Media Molecule)
2008: *Grand Theft Auto IV (*Rockstar North)
2007: *Viva Piñata* (Rare)

AUDIO ACCOMPLISHMENT

WHO'S ELIGIBLE?
Any UK or European studio, that has demonstrated pitch-perfect audio design, sound or music creation in its games released during the past 12 months. Use of licensed and original tracks can also be taken into account for this award.

LAST YEAR'S WINNER
Papa Sangre (Somethin' Else)

PREVIOUS WINNERS
2010: *DJ Hero* (FreeStyleGames)
2009: *Fable II* (Lionhead Studios)
2008: *Grand Theft Auto IV* (Rockstar North)
2007: *B-Boy* (FreeStyleGames)

PUBLISHING HERO

WHO'S ELIGIBLE?
Any games publisher, developer, hardware manufacturer, platform-holder or investor – from any country – that has supported UK and European games developers during the past year via the publishing, funding, distribution and/or co-development of new games.

LAST YEAR'S WINNER
Valve

PREVIOUS WINNERS
2010: Channel 4
2009: Apple
2008: Nintendo
2007: Sega

Microsoft's Mike Froggatt

Autodesk

Epic's Mark Rein

// TECHNOLOGY & SERVICES

TECHNICAL INNOVATION

WHO'S ELIGIBLE?
Any UK or European studio or company that has demonstrated impressive technical innovation in any aspect of games development. The award can be given to a specific technology, title or studio – provided it has been active/released as a new product in the last 12 months.

LAST YEAR'S WINNER
Kinect (Microsoft Research Cambridge)

PREVIOUS WINNERS
2010: Unity 3D (Unity Technologies)
2009: Media Molecule (*LittleBigPlanet)*
2008: NaturalMotion/Image Metrics (*GTA IV*)

TOOLS PROVIDER

WHO'S ELIGIBLE?
Any company, of any nationality, that has released middleware or tools which have enhanced or supported the work of UK or European games development teams in the past year. Developer collaboration, new technology and industry relations are all key.

LAST YEAR'S WINNER
Autodesk

PREVIOUS WINNERS
2010: Hansoft
2009: Autodesk
2008: Epic Games
2007: Havok
2006: NaturalMotion

ENGINE

WHO'S ELIGIBLE?
This is an award for the best third-party engines. It's open to any engine, regardless of where it is made, that has enhanced the work of UK or European games development teams in the past year. Weight is given to new versions or significant upgrades.

LAST YEAR'S WINNER
Unreal Engine 3 (Epic Games)

PREVIOUS WINNERS
2010: Unreal Engine 3 (Epic Games)
2009: Unreal Engine 3 (Epic Games)

AUDIO OUTSOURCER

WHO'S ELIGIBLE?
This award acknowledges businesses or individual external contractors who have helped produce, manage or directly generate audio material (music, voice recording, or VFX) for games released in the last 12 months.

LAST YEAR'S WINNER
Side

PREVIOUS WINNERS
2010: Side
2009: Side and Sidelines (for Creative Outsourcing)
2008: Richard Jacques Studio (for Creative Outsourcing)

VISUAL OUTSOURCER

WHO'S ELIGIBLE?
This award acknowledges businesses or individual external contractors who have helped produce, manage or directly generate visual material (CG, video or assets) for games released in the last 12 months.

LAST YEAR'S WINNER
Axis Animation

PREVIOUS WINNERS
2010: Axis Animation
2009: Side and Sidelines (for Creative Outsourcing)
2008: Richard Jacques Studio (for Creative Outsourcing)

RECRUITMENT COMPANY

WHO'S ELIGIBLE?
Any UK or European company working in the field of recruitment and human resources that has demonstrably served the needs and demands of the UK and/or European development community during the last 12 months.

LAST YEAR'S WINNER
Specialmove

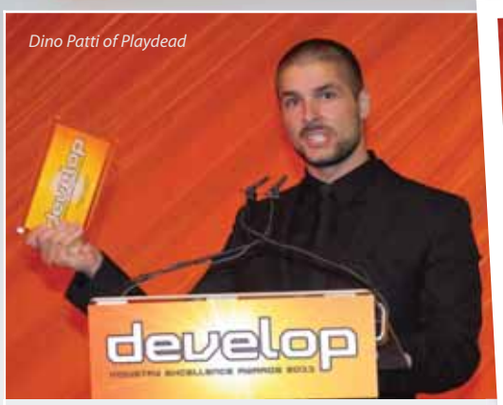
PREVIOUS WINNERS
2010: Amiqus
2009: Amiqus
2008: OPM

USE OF ONLINE

WHO'S ELIGIBLE?
For this brand new award, any European game, studio, or global technology provider, which has pushed the envelope in terms of how games utilise the internet and connectivity is eligible. Consideration will be given to examples from European-made games (such as specific gameplay devices) and both broader technology platforms from third-parties.

Axis Animation's Richard Scott and Richard Aitkin

Andy Campbell of Special Move



Dino Patti of Playdead

The Codemasters Birmingham team

Adam Hoyle of Somethin' Else

// STUDIOS

NEW STUDIO

WHO'S ELIGIBLE?
Any new UK or European studio which has had its first game commercially released – either via retail or digital distribution – during the past year. However, companies do not need to have been founded during that period to qualify.

LAST YEAR'S WINNER
Mojang Specifications

PREVIOUS WINNERS
2010: Hello Games
2009: Media Molecule
2008: Doublesix
2007: Realtime Worlds

BUSINESS DEVELOPMENT

WHO'S ELIGIBLE?
Any UK or European studio that has, in the previous 12 months, improved its business as demonstrated by studio growth, acquisitions, investments both inward or outward and/or steps to improve its output, efficiency or commercial performance.

LAST YEAR'S WINNER
Mind Candy

PREVIOUS WINNERS
2010: Sony XDev
2009: Playfish
2008: Realtime Worlds
2007: Blitz Games

Ninja Theory's Mike Ball

MICRO STUDIO

WHO'S ELIGIBLE?
Any UK or European games developer – consisting of an individual or small collective of people up to a maximum of ten – who have had significant original output in the past year.

LAST YEAR'S WINNER
Mojang Specifications

PREVIOUS WINNERS
2010: Hello Games

INDEPENDENT STUDIO

WHO'S ELIGIBLE?
Any UK or European games development company, staffed by 11 people or more, and which is not owned or managed by a publisher working on any available game platform. Lobbying studios should have had some significant output in the last year.

LAST YEAR'S WINNER
Crytek

PREVIOUS WINNERS
2010: Quantic Dream
2009: Media Molecule
2008: Splash Damage

IN-HOUSE STUDIO

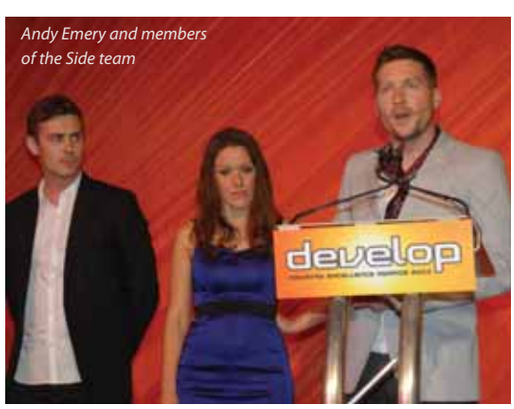
WHO'S ELIGIBLE?
Any UK or European publisher-owned games development company or in-house games development resource – including those acquired recently – working on any currently available games platform with title(s) released in the past year.

LAST YEAR'S WINNER
Media Molecule

PREVIOUS WINNERS
2010: Rocksteady Studios
2009: Rockstar North
2008: Rockstar North

Mojang Specifications

Crytek



Andy Emery and members of the Side team

DIARY DATE: DEVELOP INDUSTRY EXCELLENCE AWARDS
Wednesday, July 11th, 2012

Industry Legend Ian Livingstone

Comedian and 2012 host Iain Lee

Rovio's Ville Heijari

// SPECIAL RECOGNITION

DEVELOPMENT LEGEND

WHO'S ELIGIBLE?
The winner of this award, especially chosen by the *Develop* team, is an individual who has made a significant impact on games development – in a commercial, creative or technological sense – during their lifetime and career.

LAST YEAR'S RECIPIENT
Ian Livingstone

PREVIOUS WINNERS
2010: The Gower Brothers (Jagex)
2009: Phil Harrison
2007: Ian Hetherington
2006: Charles Cecil
2005: David Braben

GRAND PRIX

WHO'S ELIGIBLE?
This is a special award from *Develop*, bestowed upon a European individual or company in recognition of outstanding achievements in games over the past 12 months. The candidate is decided after soundings from the industry.

LAST YEAR'S WINNER
Rovio Mobile

PREVIOUS WINNERS
2010: Unity Technologies
2009: Codemasters
2008: Rockstar Games
2007: Sony Computer Entertainment
2006: Bizarre Creations

// HOW CAN I TAKE PART?

When do the awards take place?
The Develop Industry Excellence Awards take place on Wednesday, July 11th, 2012 at the Hilton Brighton Metropole Hotel.

Can I sponsor the event?
There are a number of excellent promotional possibilities at the event. Those available include opportunities for category and award sponsorship, plus supporting editorial coverage to raise your profile before, after and throughout the event.

If you are interested you can contact **Alex.Boucher@intentmedia.co.uk** for more information on how you can get involved.

How can my company enter?
This one's simple. All you need to do is send a short pitch, either as a Word document or plain text email, to *Develop's* editor-in-chief at **Michael.French@intentmedia.co.uk**

Give us a bit of history and highlight your company's key achievements in the last year – and don't forget tell us what awards you want to be considered for.

You don't need to go into masses of detail, as we only need an overview and a run through of what your key achievements/recent releases are. Be brief; it's easier for you, and for us. Remember, we know the industry very well and will have almost definitely heard of you.

You're also actively invited to lobby for other companies across the games industry – be it publishing partners, your favourite services or outsourcing outfits, and the studios that you admire.

Lobbying isn't voting, so there is no need to get all of your partners to put your name forward without any detail.

The deadline for lobbying is April 18th.

What's the eligibility period?
For those awards criteria based on newly released products, please note that to be eligible the games in question must have been released somewhere in the world after May 1st, 2011 and by April 30th, 2012. That counts whether the game is a physical or digital release.

Games in a commercial public beta are also eligible.

So what's the judging process?
When all nominations are in, they are appraised by the *Develop* editorial team. The team then decides upon a shortlist for each award based on the lobbying documents and industry standing.

Profiles of the shortlisted companies are then sent out to a judging panel made up of 100 industry executives hand-picked by the *Develop* team.

The judges confidentially disclose their choices and those with the most votes win. Simple.

The names of the judges are only named after the event.

I want to come along! How can I attend the awards?
Given the increased pressures on developers' wallets and studio budgets in recent years we've actually dropped the prices – how many award events can say that?

Early bird prices, for those tickets or tables booked on or before June 8th, are: Gold Table of 10 – £1,975 + VAT; Standard Table of 10 – £1,750 + VAT; and Single Seats – £195 + VAT.

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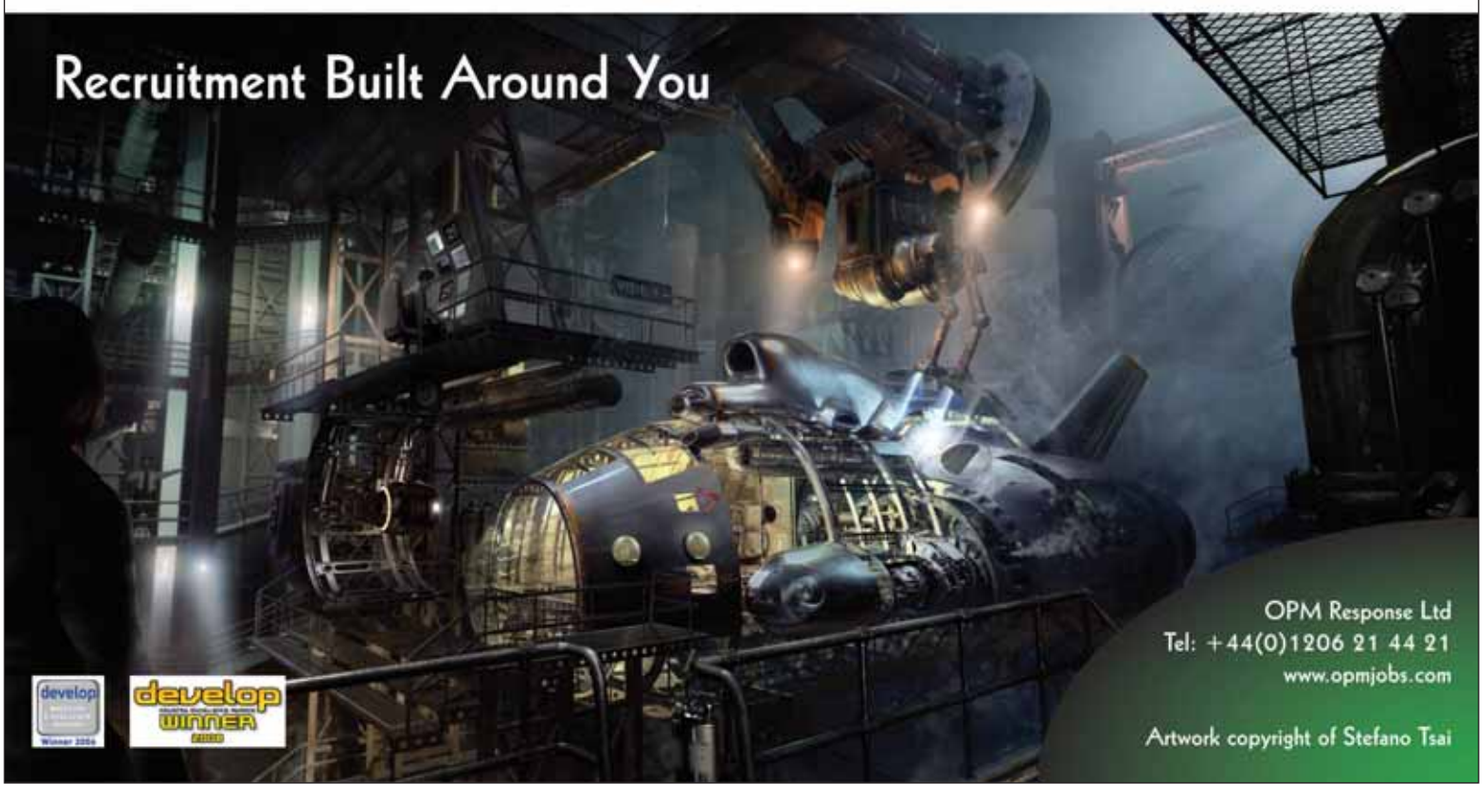

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Next-gen outsourcing

Following up on last month's outsourcing special, RealtimeUK's video games account director **Dave Cullinane** looks at how external art asset creation must adapt to fit the future

ANYONE CASTING even a casual eye over the industry news headlines of late won't be surprised to learn that a new generation of consoles is rumoured to be on the horizon.

This transition will bring about the usual challenges and headaches for everyone in triple-A development amidst the usual flurry of assumed technical and hardware specifications, which will no doubt be the source of fevered speculation over the coming months.

Like the last generation and those before it, some developers will succeed in making the transition whilst others will flounder. This time around, as before, the studios that succeed will be those who have strong outsource partners – particularly in art creation – to enable them to scale up rapidly for production.

In fact, with the next generation art outsourcing will play an even more prevalent role at a time when creativity and innovation will be under increasingly intense scrutiny.

In order to remain competitive, those developers looking to find their place in next-gen production will need to find suppliers who are able to provide not just quality, but creativity and the ability to help realise the developer's vision.

Frontier Developments outsourced the animation and direction of its cut-scenes for its Xbox 360 title Kinect Disneyland Adventures to RealtimeUK

SMART THINKING

Since the last generation of consoles were released, much has changed in the industry that indirectly affects triple-A gaming. It's now hard to believe a time when Facebook, smartphones and tablets weren't so prevalent, and yet they didn't even exist as an alternative prior to the current cycle of games consoles.

Their dominance has now unarguably changed the landscape of gaming forever. So much so, that the level of expectation amongst consumers as to the visual fidelity and gaming experience will be higher than ever before. Console games still lead the pack in heading towards gaming's Holy Grail – Hollywood visuals married with engaging and emotive interactive experiences – but that may change.

With internal development headcounts predicted to remain the same in the next generation, studios will increasingly need to partner with vendors that are trusted to a level of creativity to the production in order to ease the burden of producing high fidelity content that new systems will demand.

Art outsource service providers able to make the leap from slavishly acting under instruction to a group viewed as creative partners that act as an extension to the development team will fare best. The vendors who share the developer's passion for making the game and are able to make a major contribution at every stage of its production will be the ones who benefit most.

Such premium quality vendors operate in a completely different market to low cost off-shored suppliers and are able to make a contribution to a game's development and creativity at every level.

> ***"Go too cheap and there is a risk that your internal resources will quickly become tied up in having to micro-manage each individual asset."***

RealtimeUK was one of several suppliers for *Kinect Disneyland Adventures* and both *Kinectimals* titles, and Frontier Developments was delighted at the level of creativity we were able to bring to the project.

As well as setting the required benchmark for the animation, we contributed to the direction of cut-scenes, becoming an extension to the main team and freeing them up to concentrate on other aspects of the game.

Similarly on projects like *Split/Second* and *Motorstorm*, our team's creative input was instrumental from an early stage of development and its contribution at the pre-production stage of the latter is still evident in the ongoing success of the IP.

THE PRICE IS RIGHT?

Despite often tight budgets, the clients we speak to understand the trade-off that exists between cost and quality. Go too cheap and there is a risk that your internal resources will quickly become tied up in having to micro-manage each individual asset before it finally – if ever – hits the required quality benchmark. Conversely, exclusively using premium quality suppliers can be hard to justify if the budget is tight. Clearly, a balance needs to be struck.

Fortunately, better studios understand that art resource is not a commodity and there is a role to play for both premium quality studios and low-cost offshore suppliers.

Judging by the number of clients approaching us at an early stage of production to help them set the visual benchmark for their games, many developers are realising the value that premium suppliers can bring to the genesis of a new title where the stakes are higher than ever. Vendors able to offer a more consultative led approach can give a dev team a fresh perspective to creative problems.

Such services are now particularly attractive to developers more than ever, as we approach another generation of consoles.

JACKED

The team behind Grand Theft Auto didn't just create a game; they built a pop culture phenomenon. Here we present two excerpts from **David Kushner's** new book Jacked, which tells the unauthorised story behind the GTA series

WHAT'S IN A NAME?

IN THIS EXCERPT we pick up with Sam and Dan Houser and the founding members of Rockstar Games shortly after moving to America to establish the business. They had a vision, and they had plenty of attitude. All they needed was a name

One day Sam and the others piled into a car for a road trip to Six Flags Great Adventure, the theme park in Jackson, New Jersey. The guys loved roller coasters almost as much as hip-hop and wanted to celebrate their new move with a day on the rides.

GTA was on its way to selling more than one million copies worldwide. They still weren't rich, but they were emboldened. They wanted to brand themselves while they were hot, so that consumers knew they weren't just buying into a game but a lifestyle. They just needed a name. They would still remain part of Take-Two Interactive but as a branded label. Grudge Games was Donovan's favorite, suggested because they were, as Sam once put it, "world-class grudge bearers."

"Minimum ten years," Dan said.

When they had run the idea by Brant, though, he balked. "You know, guys," he said, "I know where you're going with that, but it's a little on the negative side."

During a recent trip to London, Sam had tossed out the name Rockstar. "I like everything, from the Keith Richards it evokes to the campiness it evokes," he later said, "and everything in between. . . at the end of the day you can't fuck with Keith Richards!"

"It's a nod to the past and a snipe at it at the same time," [marketing man Terry] Donovan agreed. "And also, in a weird way, a snipe at the lameness of the present. In some ways, the golden age of the rock star is done. Not many Keith Richards around now. Now they're drinking herbal tea!"

Foreman had one concern about calling themselves Rockstar: they had better deliver. "People will make fun of us," he said. "We'll get shit, but then pressure would be on. We'll have to live up to it. We have to make sure our games are really, really good." Yet that, for them, was a given. Now the co-founders of this label simply had to make it official.

Over in the midway at Six Flags, they saw a vendor selling wooden plaques. For a few bucks, visitors could have their own messages burned into the wood, such as "Bon Jovi Rulez!". As the acrid smell of sizzling carbon filled the air, they watched the carny etch their new name into the wood: Rockstar Games.

They decided to burn one more sign for good measure. Something they could hang next to this one in the Commune back in New York. A phrase to remind them forever of this day when their mission began. A cheeky message, perhaps, for anyone who might ever try to stop them.

"Fuck Off Cunts," it read. ■

Always controversial and never one for bowing to media pressure, the GTA series is one of the most influencial of the past 20 years

A LINE IN THE SAND

HERE WE JOIN SAM Houser during the development of GTA III, moments before he realises that the game could well reshuffle the pop culture pecking order

It was a grey day inside Liberty City. Rain poured down on the Callahan Bridge, casting the buildings in a wispy haze. Cars streamed up and down the highway – the buses and the police cars, the sentinels and the patriots. Sam knew just which one he wanted, the blue banshee with the white stripe down the middle. He jogged up beside it, then tapped the triangle button on his controller as he ripped open the door and tossed the driver to the side. "He's taking my car!" the driver cried, as Sam held down the X button, flooring it.

Tapping the rectangular button with his left pointer finger, he flipped through the stations. There were nine of them now, one for every mood. Click. The subtitle 'Double Clef FM' on top of the screen. The strains of opera. Click. Flashback 95.6 with Debbie Harry singing *Rush, Rush*. Click. Game Radio FM, underground hip hop. Royce rapping "I'm the King." Sam tapped the X button and accelerated.

He wasn't just playing, he was observing. This was his world and it had to be perfect. His eyes and ears scanned every detail rushing past him in the game. The hum of the accelerator. The squeal of the tires and little black tire tracks when he took a corner. The splat of pedestrians under the wheel. The way the hood flew up off the front, exposing the metallically intestinal engine, followed by a terrible stream of smoke.

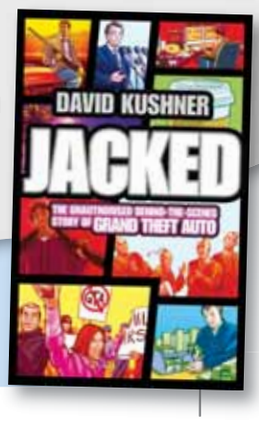
> ***"Something about GTA III just drew a line in the sand between games and movies, and it felt like this is us taking over now."***
>
> Sam Houser, Rockstar

The guys at DMA had coded the physics to let players drive over lampposts, knocking them down to the ground so that nothing would stop their pace. Sam clipped the lampposts like pathetic sprigs, as his wheels jumped a curb for a short-cut through a green, tree-lined park. "I'm an old lady, for Christ's sake!" shouted a ped as Sam raced by.

Once he hit the highway, that's when he did it. Tapped the Select button to change the camera view of the action, which the DMA guys had coded for the first time into *GTA*. Click. First person POV, as if he were strapped on the hood of the car. Click. Third person, overhead looking down on the ride. Click. His favourite, Cinematic mode. It appeared as if the camera were saddled on the lower left side of the car like a chase from a film. As Sam tore through the town, the camera automatically switched to other cinematic angles, as if some brilliant invisible William Friedkin was directing.

"This is the future of moviemaking," Sam believed. "Because here's my set, I can go anywhere and put my camera anywhere. I can do anything again and again and again from any angle I want." The more he played *GTA III*, though, the more he felt something inside him change. He was twenty-eight now. A man living his childhood fantasy. Long after he first saw Michael Caine and his mom zooming down the streets in *Get Carter*, he had been fascinated by action films. Now as a pedestrian flew over the hood of his car, and the sun beamed down in its simulated brilliance, he was the star of his own revolutionarily cinematic game.

He wasn't merely watching a movie, he was inside it – and this realisation made him feel as if he'd never be able to watch a movie the same way again. Games weren't about one person's authorial vision. They were stories told by a new generation of creators and players in a language all their own. "To me, as a film nut, there was something about *GTA III* that just drew a line in the sand between games and movies," Sam recalled, "and it felt like this is us taking over now." ■



WANT TO READ MORE?
These excerpts are taken from *Jacked: The Unauthorised Behind-the-Scenes Story of Grand Theft Auto* by David Kushner, available now from publisher Collins for £12.99.
www.harpercollins.co.uk

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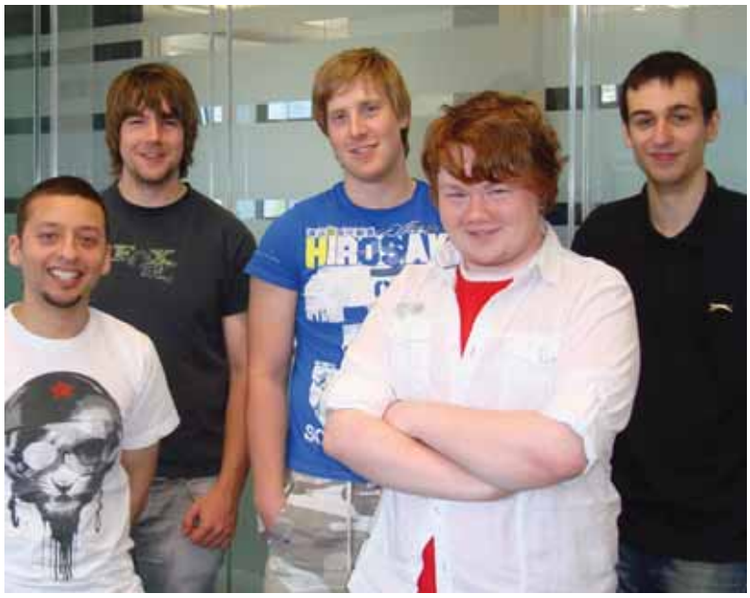
Dare to win

Development's young stars have been celebrated in BAFTA's special 'Ones to Watch' award. **Craig Chapple** finds out more



THE UNIVERSITY OF ABERTAY'S Dare to be Digital games design competition has been running since 1999, starting just two years after the institution launched the world's first higher education games development degree.

Today the contest has become hugely popular amongst aspiring industry professionals, including artists, designers and programmers. This year 15 teams were formed from all around the world, even as far as India and China, with devs coming together as they looked to create a game prototype within just nine weeks.

This year's three Dare winners were Digital Knights, Evolved Ape and Swallowtail. As a reward for winning, all the teams were then nominated for BAFTA's 'Ones to watch' award, offering the developers national recognition for their hard work and achievements.

IN IT TO WIN

This year's top prize was awarded to Swallowtail, for its iPad 3D puzzle game *Tick Tock Toys*, in which users must alter the position of objects to clear a path for a robot so it can reach the end of the level.

The group's team leader, Sophia George, who studies at Norwich University College of the Arts, says the students entered Dare as they saw it as a great opportunity to learn more about the industry.

"We wanted to enter Dare to be Digital as we are all very passionate about working in the games industry and saw the competition as a great opportunity," she says.

"Some of us had not made a game before, so the idea of competing in Dare to be Digital was exciting. The experience has proved invaluable, as we got to make a game that we are all very proud of and got to meet many fantastic people."

George also says that the nomination in itself has been a great boost to the team, giving them the chance to tour studios in the UK and raise their profiles.

"Since we've been nominated for a BAFTA, we have visited Outplay Entertainment in Dundee and Sony Studio Liverpool, both of which would not have happened if it wasn't for our success in the competition," she explains.

"The contest itself has been an amazing chance for networking, and we are frequently being asked about our game."

> ***"The intensity of the Dare experience helped us to cement the basics of teamwork, planning, and communication."***
>
> Malath Abbas, Evolved Ape

Chair of the BAFTA Video Games Committee and former head of Sony Computer Entertainment UK Ray Maguire says that the award is important to inspire young students to consider a career in the games industry whilst also providing a platform for achievement.

"When we get to the students actually within higher education, Dare to be Digital is a great way of inserting them into a very intensive course over nine weeks, to really get some output for them. I think these are potentially the stars of our industry within the next generation, so I think it's really important."

Maguire adds that to achieve these aims it is essential the award specifically focuses on students, and is not a special prize for indies of all ages and abilities, to give young devs the experience of working on an intensive project and learning to work well with others.

"I think anyone going through this project and getting to the end will all now have a much better chance of working in the industry because of the heavy interaction they've had and the fact that they've been deeply engaged," he says.

Evolved Ape team leader Malath Abbas, whose group create 3D puzzler *Dreamweaver*, agrees with Maguire's assertions, stating all developers in the competition learnt invaluable skills through the contest on the work that goes in to creating games.

"The intensity of the Dare experience certainly helped us to cement the basics of teamwork, planning, and communication," he says.

WORLDWIDE TALENT

So inspiring has the event been to nominees Digital Knights, whose team consisted of students from as far as the IT University of Copenhagen in Denmark, the young developers have now even formed their own studio on the back of the contest, to focus on developing their game prototype *Joust* into a fully fledged title for Xbox 360.

"This isn't the end of our journey, but only the beginning. Just last week we officially became a Danish company, we are now the Digital Knights I/S," says team artist Amr Din.

"Currently we are trying to process some funding and invest in the game. From May we will be developing the game and hoping to release it to the Windows 8 Market or on to the XBLA store."

Applications for the next Dare to be Digital event are scheduled to finish on April 10th, with the contest to take place between June 11th and August 12th, with no doubt many hundreds more young developers applying as they look to break into the industry and maybe even win their own BAFTA award.

www.daretobedigital.com

Above, top-to-bottom: Malath Abbas, team leader of Evolved Ape, Sophia George, team leader of BAFTA winners Swallowtail, and Digital Knights team artist and ambassaor Amr Din. Top: Swallowtail (left) and Evolved Ape (right)

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THE LATEST TOOLS NEWS, TECH UPDATES & TUTORIALS

Havok's Vision

The tool outfit's managing director David Coghlan explains what the future holds for Havok in the wake of acquiring the Vision Engine, p46

xaiment's Unity AI plug-ins

p48

Borderlands 2's Epic engine

p50

Breaking HTML5

Is HTML5 a blessing or a curse for developers? **Craig Chapple** looks at the platform with ambitions to challenge Adobe's ubiquitous Flash web player as the leading browser games development platform

Top to bottom: Remode Studios technical lead Chris Herbert, Adobe group product manager Deepa Subramaniam, and web developer at Scirra Tom Gullen. Above right: HTML5 game Tesseract Hyper Cube

INITIALLY HERALDED AS the future of browser gaming and the next step beyond the monopolised world of Flash, HTML5 has since faced criticism for being tough to code with and possessing a string of broken features.

The coding platform, the fifth iteration of the HTML standard, was supposed to be a one stop shop for developers looking to create and distribute their game to a multitude of platforms and browsers, but things haven't been plain sailing.

Not just including the new HTML mark-up language, but also incorporating other features and APIs such as CSS3, SVG and JavaScript, the platform was supposed to allow for the easy insertion of features for the modern browser such as video and audio, and provide them without the need for users to install numerous plug-ins.

And whilst this has worked to a certain degree, and a number of companies such as Microsoft, Apple, Google and Mozilla under the W3C have collaborated to bring together a single open standard, the problems it possesses cannot be ignored.

BREAKING UP

Perhaps the biggest issue currently plaguing HTML5 is its audio implementation, which many developers claim is broken. Chris Herbert, technical lead of Remode Studios, says that audio is considerably behind the rest of the platform's features, with problems such as lag and file support, although he believes there could be vast improvements in this area in the future.

> ***"There are clearly areas of HTML5 that need some work, audio being an area that's lagging behind quite dramatically."***
>
> Chris Herbert, Remode Studios

"There are clearly areas of HTML5 that need some work, audio being an area that's lagging behind quite dramatically, particularly in mobile browsers," he says.

"The problems mainly relate to how sound data is swapped out of sound channels, many browsers are experiencing a lag, or in some cases jumps or pops. Also, the support for audio file formats is inconsistent, with some browsers favouring the ogg vorbis format whilst others – such as Safari – favour the MP3 format.

"Issues such as these highlight that this is a technology in its infancy, but given its potential as a fully featured platform in its own right, I believe that we will see HTML5 find maturity much quicker than previous incarnations of HTML."

Sandy Duncan, CEO of YoYo Games, responsible for 2D-focused engine Game Maker, agrees that audio is broken and says that this is an issue that is being worked on, but due to the cross-platform nature of HTML5, will take time to be approved.

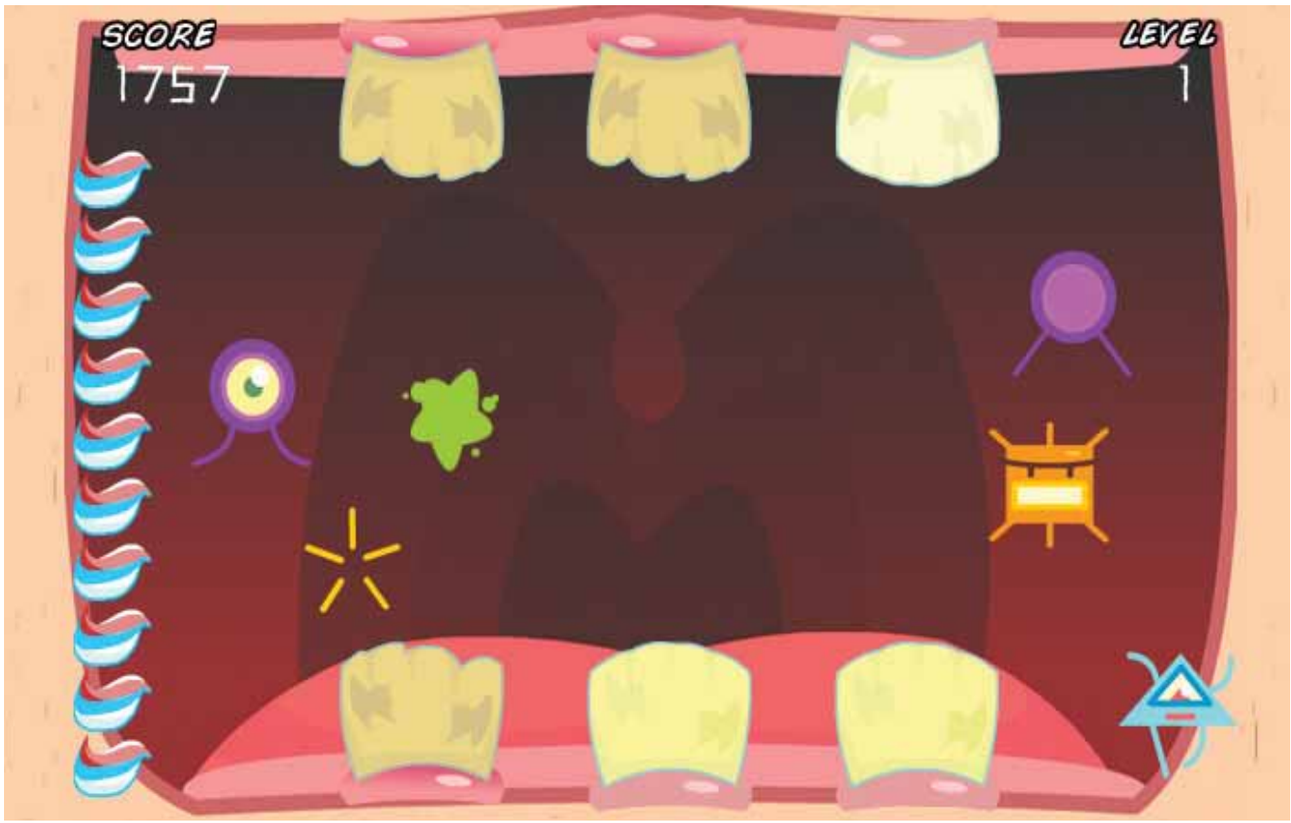
"As to audio being broken, yes it is a little," he says. "The browser guys know this, and are working hard to fix it, but with much of the core browser being used on many platforms, it has to be verified and checked a lot to make sure it won't just kill something and that makes some changes a little slow to come through.

"The new WebAudio API will help though; it gives a very flexible audio system without the old baggage the audio tag brings."

But the need to fix the issue is presenting its own problems, says Steven Goodwin, creator of cross-platform tool SGX Engine. He believes it has the potential to create a divergence in solutions, which seems against the nature of why HTML5 was developed in the first place.

"Both Google and Mozilla are building solutions to the problem, but in different ways," says Goodwin.

"This is creating the same problems in divergence that plagued the web in years



Top to bottom: Ludei CTO Ibon Tolosana, creative director of Remode Studios Martin Darby, Spil Games CEO Peter Driessen and SGXengine creator Steven Goodwin. Above Left; Teeth Defender

gone by. While middleware is a good interim solution – SGX itself uses the jPlayer library, which falls back to Flash – the real solution is for the W3C to work with app and browser developers to create a good standard that everyone can follow."

A DEBUGGING NIGHTMARE

Whilst the issue of audio problems appears unanimously negative, issues with its programming are up for debate. Despite many devs being uncomfortable with coding in JavaScript, others have found workarounds and suitable tools to help with overcoming problems such as cross-browser compatibility and JavaScript debugging.

Goodwin says that developing in this language can be a "debugging nightmare", as errors are allowed to sail through to run-time instead of being caught at the compile period, making creating games at times a torrid process. But he believes that JavaScript has an unfortunate reputation because of these issues.

"If you write with the same diligence you would if it were C++, you will stand a better chance of keeping your sanity," he explains.

"JavaScript, as a language, is very capable, it's just unfortunate that it has a bad reputation because it was always used to interact with different – incompatible – browsers."

Herbert goes as far as to defend HTML5 in this area, and says he does not feel it is difficult to program with, but on the contrary, JavaScript has many ideal features suited for creating browser games and that developers just need to become more accustomed to coding with the language.

"I certainly wouldn't agree that HTML5 is difficult to program with, it's an ideal environment for the sort of rapid prototyping," says Herbert.

"OOP in JavaScript can be a little weird for developers used to C# or Java, not least because the syntax at first glance would be very forgiving but there's no apparent and solid definition for what a 'class' is in JavaScript. Although any OOP design pattern will translate into JavaScript, it does take a little getting used to."

> ***"I think users will be dragged kicking and screaming into the new world of HTML5 whether they like it or not."***
>
> Sandy Duncan, YoYo Games

Whilst these technical issues can be overcome in the near future as a plethora of companies search for the best standard solutions, another of the biggest obstacles HTML5 faces in the near future is the size of its userbase.

ATTRACTING USERS

Whilst it is undoubtedly open to hundreds of millions of people – reportedly more than 800 million – its biggest rival Flash has a userbase of more than two billion, and it is supported by most current browsers, compared to just 40 per cent that support HTML5.

With Flash being so readily available and used by most potential customers, it has been hard for HTML5 to break through, particularly on the back of its early teething problems, and the fact that it is still under development.

"HTML5 use has definitely been picking up, with browsers rapidly adopting HTML5 specifications, but we're waiting for consumers to update their browsers," says Peter Driessen, CEO of social gaming giant Spil Games.

"HTML5 isn't ideal for out-of-date browsers, which a sizeable chunk of the population still uses on its computers and mobile devices."

But Duncan believes this won't be a problem for the platform for long, with many new browsers ditching Flash altogether and integrating HTML5, whilst Apple and Microsoft have forgone the use of Flash on iOS and Windows 8 altogether.

"With the auto-update features of Chrome, Firefox, Opera and now Internet Explorer, I think users will be dragged kicking and screaming into the new world whether they like it or not," he asserts.

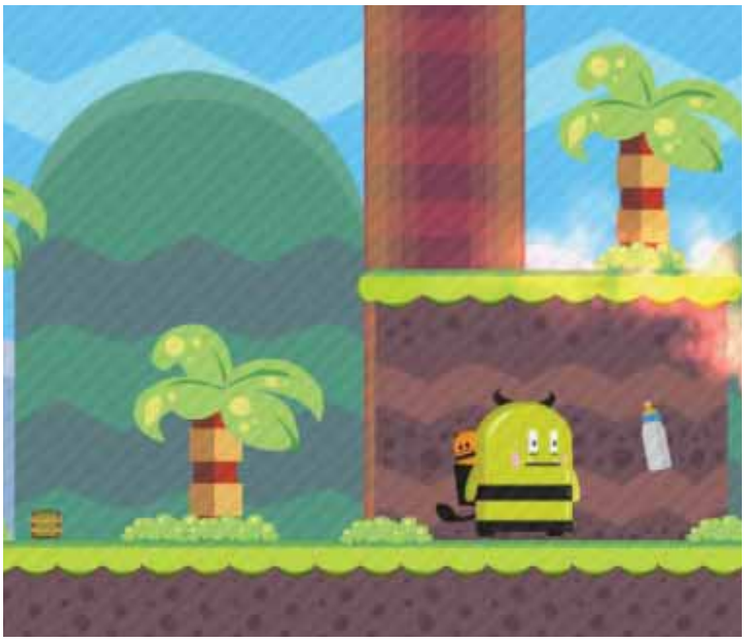
"And to be honest, it's for the best – old browsers are slow, sometimes bug ridden, and full of security holes, so an auto update is for the best. This makes it really attractive to developers though, as they can be assured that 'most' users who care about running things like games will probably be up-to-date, and if not, be willing to go and download a new browser to get there."

Scirra's web developer Tom Gullen agrees, saying that as long as progress is made, users will eventually adopt the platform anyway, so devs shouldn't be afraid to use it.

"Some are but they shouldn't be. It's obvious to us that HTML5 is the next big growth area on the web," asserts Gullen.

"As long as HTML5 keeps progressing as it is and browsers keep working to support it as well as possible, the userbase will keep on growing and eventually surpass Flash."

Ibon Tolosana, CTO of CocoonJS creator Ludei, says that HTML5's potential to dominate as the web development standard is a key benefit of adopting it now, rather than get caught out and left behind once it



Powered by Scirra's HTML5 engine Construct 2, platformers Magi (left) and Monster Daddy (right) show some of the capabilities available to devs to create games

becomes the norm. He also says that despite the criticisms aimed at JavaScript, it has become one of the most common development languages in use.

UNTAPPED POTENTIAL

"Being prepared for the imminent change is an important reason for developers to start adopting the technology gradually in their projects," he says.

"Recently, JavaScript has become the most popular development language on GitHub, surpassing Python and Java. HTML5 can be a great option to develop some projects in and developers should not overlook it.

"The first step is to understand the features and results that HTML5 has to offer and then decide which technology is the best option. In terms of user base, we believe that HTML5 adoption is inevitable and will be only a matter of time when its userbase will be as big as where Flash is now."

As well as its inevitable adoption by the masses, whether welcomed or forced upon them, there are still many benefits from using HTML5 that are often looked over in the face of its more serious problems.

Driessen believes that not having to take on as much work developing for various different platforms means that the cost effectiveness of using it outweighs its issues.

"Browser-based gaming, and thus HTML5, saves developers time and money which they otherwise lose when having to modify games for different mobile platforms," he says.

"Thanks to HTML5's open standard, devs only have to develop a game once, and it can be easily deployed on all devices with browsers supporting HTML5 such as PCs, iPads, iPhones and Google phones."

AN INDUSTRY STANDARD

He adds that as well as making games available on multiple devices, it allows users to instantly play their games, rather than have to deal with installation hassles and the delays in having to download them from app stores.

Ludei's creative director, Martin Darby, agrees that the ability to run a game in a browser without plug-ins is a huge boon for HTML5, and even allows developers to bypass Apple's own store and its approval processes.

"Clearly Apple's reluctance to support Flash and now Microsoft following suit with its Windows 8 devices is giving HTML5 a lot of momentum at the moment. Because it falls under the remit of the WC3 it will be a lot more difficult for major platform providers to drop support for it," says Darby.

"The upshot of this is that anything running on the open web effectively allows you to side-step the app store and all of Apple's terms and approval processes that go with it."

> ***"Flash is very old proprietary technology. It's had its moment and now it's time to move over."***
>
> Tom Gullen, Scirra

Goodwin believes that another of HTML5's benefits is being able to make use of a wider range of tools, such as his own SGX Engine, than was available under Flash, helping make development easier. This, he says, is something that will only continue to improve.

"The main benefit is being able to use a wider range of development tools. And they're usually free," he says. "Both Chrome and Firefox have good debuggers, and provide the most important functionality of IDEs such as Flex builder. Consequently, the turnaround time from implementing a change, to testing it live, are very short making it ideal for rapid prototypes, and game balancing.

"Also, because JavaScript has been around for ages, there's a large talent pool available who are used to the problems – and solutions – of the language, and can handle the client-server communications necessary in service-oriented games."

And, despite the company's obvious allegiance to the use of Flash, at least in part, Adobe has also begun to join the HTML5 trend, creating tools to help developers leverage its capabilities. Adobe group product manager Deepa Subramaniam says, though, that developers should ultimately choose the platform that is right for them, and that matches their needs.

"HTML capabilities around graphics, audio/video, data management and application-development, will improve in time – but it does take longer for consistent implementation to be reached across popular browsers and platforms," she says.

"It's important for developers to analyse the requirements of the content they are aiming to build and choose the appropriate technology based on those needs."

THE FUTURE

It seems that despite all of the criticisms HTML5 faces, and its big issues with problematic features such as audio integration, developers are keen to keep on supporting the platform and see it through to the end, in the hope of creating a single standard that can allow their games to be deployed across multiple devices with ease.

Gullen believes that this will happen sooner rather than later, and it could take just a couple of years to become the most popular platform integrated into modern media devices.

"I do believe, however, that in less than five years – maybe only one or two – HTML5 will be the standard for browser games and yes, this will be a good thing," he states.

"Flash is very old proprietary technology. It's had its moment and now it's time to move over. Adobe knows this as well and is shuffling over to HTML5. Within five years I expect and hope that just about every modern media device will support HTML5 in some capacity. It's an exciting technology with an exciting future ahead of it."

It seems then, whether developers like it or not, HTML5 is here to stay. So they'll have to adapt, even if that means they are dragged kicking and screaming all the way through untill its potential is fully realised.

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Spreading Havok

At GDC Havok revealed a deal with Nintendo to make its tech more accessible to Wii U developers. **Will Freeman** asks the firm's managing director David Coghlan what that, along with the Vision Engine acquisition, means for Havok's future

The demos of Havok's tech shown at GDC 2012 (right) by MD David Coglhan (above) and his team demonstrated that, since acquiring the Vision Engine, the company is now offering a complete development solution

WHAT DOES THE Wii U deal mean for Havok, and the developers of Wii U games?
For developers of Wii U games it means access to two of our flagship products – Havok Physics and Havok Animation – for any games that they are developing on the platform, and in an extremely cost effective way. The deal applies to developers worldwide, including both third-party and Nintendo studios.

From a Havok point of view it means we're potentially expanding the range of studios that are getting their hands on our tech. That's something we're always trying to do at an overall level, and at every level. Historically Havok has been very focused on the triple-A side of things, but in the last two years we've seen our tech get into the hands of many more people, and this is an important step along that road. This Wii U deal really will put leading tech in a much broader range of studios worldwide.

And will we see more Havok's middleware added to the rostrum of products that are supported by the Wii U deal?
Speaking with Nintendo, they identified Havok Physics and Animation as priority products to make more accessible to Wii U developers. The other Havok products are available for Wii U games development, but under standard licensing models from Havok.

So why was it Havok Physics and Havok Animation were chosen to be made available to Wii U devs through the deal?
Nintendo clearly recognised the value that cutting-edge physics can have on a platform. I think animation is also a key area that people are focused on as they look to the future. Wii U games developers can still come to us for other products, but something like Havok Cloth may not be applicable to for every game for the platform, while things like physics and animation are clearly relevant to every title.

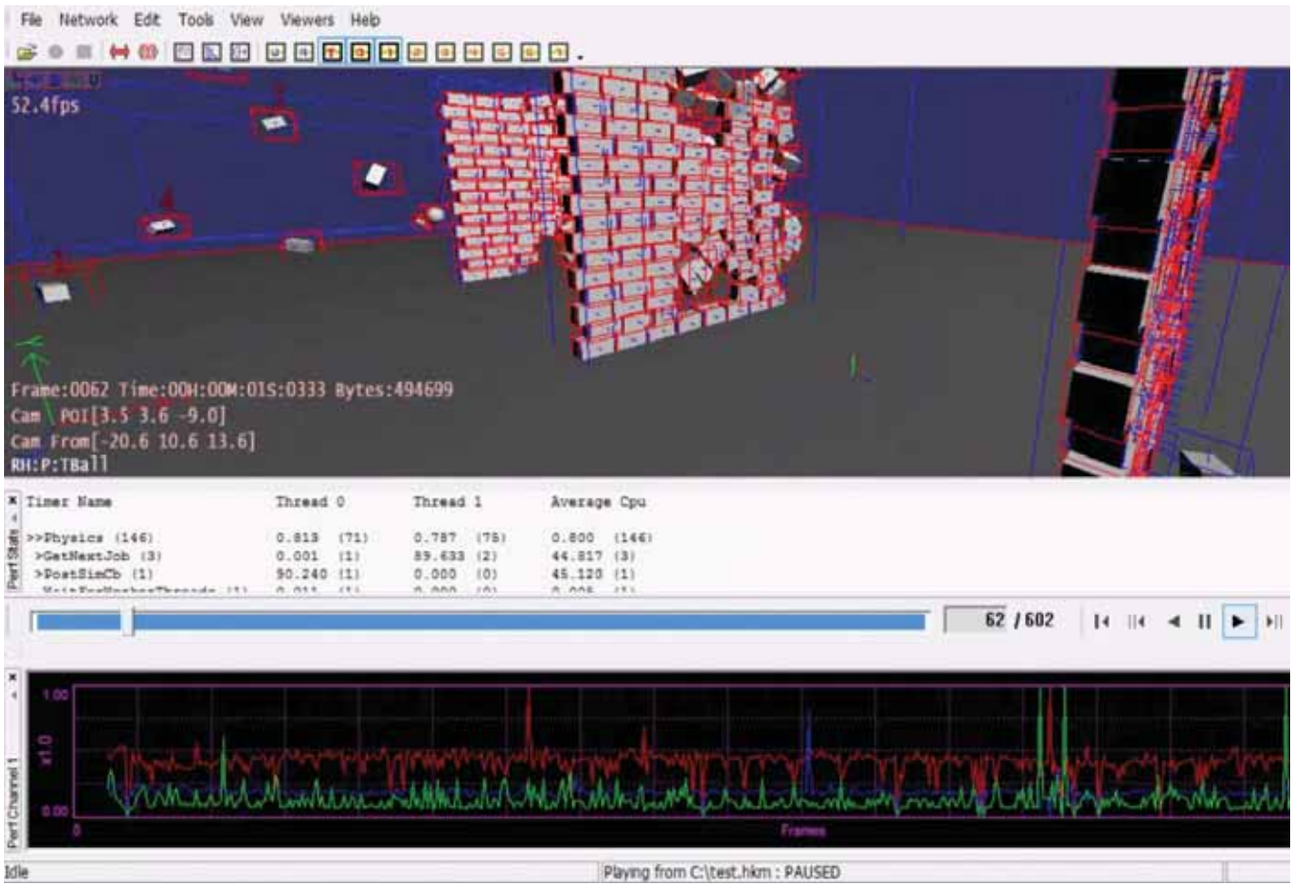
> ***"The progress we've made has really been possible because of the modular architecture of the Vision Engine."***
> David Coghlan, Havok

How about the integration of the Vision Engine into the Havok toolset. What motivated the move into the engine space?
Historically Havok had been known for providing 'best in class' middleware components, and for many studios they were happy to take that and integrate that with their in-house render. But we also started seeing a lot of studios that were coming to us and saying something like 'we're using so many Havok components in our games development pipeline, how about just rounding it out and giving it to us pre-integrated inside an engine?'.

We've known the guys at Trinigy for years, including the founders, and we had a number of common customers that we shared, and we liked the fact that as architects of their own software they have a very similar approach to Havok; a very modular approach to their technology.

About six months ago we made the acquisition and we're all thrilled with the progress we're making. At GDC 2012 we were showing the Vision Engine fully integrated with the full range of Havok products, all out of the box.

So a modular tool set is now paired with a central engine. Why is that modular nature significant in this case?
The progress that we've made in that short space of time has really been possible because of the modular architecture of the Vision Engine, and a number of our customers are already using Vision with Havok products integrated.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But Havok's offering remains one where Havok users can still pick and choose the elements they want to use?
Absolutely, and we're committed to maintaining that approach. So for someone who is interested in a full solution including all the middleware components and engine, we can now provide that for them. But if someone just wants Havok AI, Havok Physics or perhaps Havok Cloth, we make sure that they can have that. We're not interested in providing a single-model solution. We want to put the choice in the hands of developers.

And in offering that range you're still making your products available to smaller developers, as we discussed last year?
There's two ways we approach that. One is technical, and the other is business related.

From the tech perspective, what we're finding with studios working on more modest budgets is that they may not have the time to round out the gaps between individual middleware pieces they might have selected. Now they're very interested in actually taking the full off-the-shelf engine that has all the components pre-integrated. It's a great model for those teams. Adding the engine capabilities has been a really important step in increasing the accessibility of our middleware products for smaller teams. That's been a very important step forward for us.

The business angle is that we obviously want to remain ahead of the changes in the industry, and we've seen huge changes at the moment, in terms of the range of team sizes producing high quality 3D content. So through things like our Strike program we're really looking at business models that allow teams that aren't necessarily at the triple-A end of the scale to have the ambition to make very exciting 3D titles.

> ***"It's critical that engine technology evolves to support the kind of gaming experience that potentially moves between platforms."***
>
> David Coghlan, Havok

Has positioning the Vision Engine as something of a hub that connects the Havok middleware elements in any way influenced you plans for further developing those tools?
At six months in I think it's had some small influence already, and I think as we go forward you'll continue to see changes there. It gives us a really good reference case in the way our middleware components will be integrated together inside an engine solution, and that in turn can help inform developers of those products.

As the industry continues to change, the concept of a game engine will need to do the same. How do you see the core concept of the game engine evolving?
There's a number of exciting directions that we're looking at. One is related to the range of high-end platforms there are today. The gap between a high-end console and a handheld is narrowing, and as that continues the things we expect to be possible across a diverse range of platforms is very exciting. It's critical that engine and middleware technology evolve to support the kind of gaming experience that potentially moves between platforms. We're very focused there.

Now that you are both an engine and middleware company, you've broadened Havok's scope. How far do you take that expansion? How do you choose what not to tackle next, in terms of games tech?
I think we feel, in terms of our solution set now, it's a pretty complete offering. And then when you consider the range of integrations into third party middleware Havok provides, that's even more the case. We're certainly keeping those channels open.

Deals like that we share with Autodesk for ScaleForm and Beast integrations now apply to the Vision Engine.

The Vision Engine even integrates with some technologies that could be seen as somewhat competing with our existing products, but we're really determined that we don't limit developer choice there. We're customer lead in that regard.

But I do feel that Havok is a position to offer a solution in which it is entirely feasible to build a game of absolutely any scale from a budget iOS title up to something like a cutting edge console title.

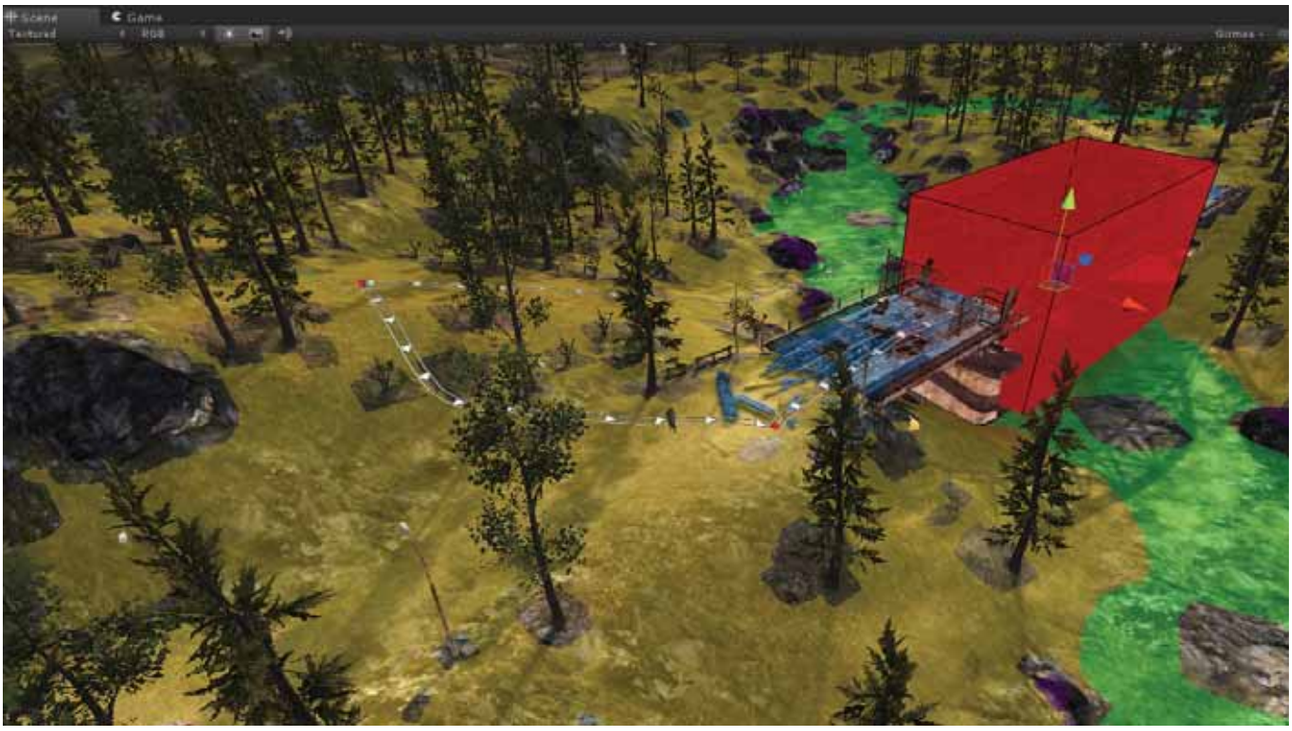
Looking ahead, the breadth of what we offer is now pretty complete, so in the future it's about continued innovation in the areas we cover.
www.havok.com

KEY RELEASE

Will Freeman looks at xaitment's new high-end AI plug-ins for Unity

WHAT IS IT? A pair of AI plug-ins for the Unity game engine
COMPANY: xaitment
PRICE: $499 each
www.xaitment.com

The new Unity plug-in, says xaitment CEO Mike Walsh (above) will take the company's tech (right) 'to the masses'



TRADITIONALLY THE LIKES of pathfinding and character behaviour AI are playthings of triple-A games, where finance and timescale allow for the creation of NPCs with sparkling neurons and a knack for navigation.

Yet, as game budgets and team sizes have contracted, and small-to-medium studios have flourished, simpler approaches to AI have blossomed across the tools sector.

But in the gap that divides lo-fi and triple-A AI, there is something of a chasm; an inane valley that prevents top-of-the-range techniques and tools making their way to the hands of mobile, social and casual studios.

That may be about to change, however, as AI specialist xaitment has decided to repackage its high-end solutions and distribute them all the way down the games development food chain.

It is doing so by offering two of its most significant products as newly released Unity plug-ins; namely pathfinding and NavMesh tool xaitMap, and game logic and character behaviour technology xaitControl.

UNITED THEY STAND

While integrating xaitment's AI tools with Unity has always been possible, doing so had until now taken substantial effort. That is all set to be a thing of the past, thanks to the easily installed plug-ins, which xaitment designed to offer affordability and advanced functionality.

"We've taken our triple-A technology and pushed it down to the masses," explains xaitment CEO Mike Walsh. "We've taken two of our products – xaitMap and xaitControl – and we're making them available as plug-ins for all Unity users. We're setting up an online store, so the product can be downloaded right on our website. The plug-ins will work with Unity out of the box, and the xaitMap product will work inside the Unity editor. XaitControl is a little different, but both products are fully integrated with Unity."

The plug-ins deliver an ambitious range of functions and features to the interface and dev environment of Unity engine, such as NavMesh generation, pathfinding, collision avoidance, character movement, and graphical character behavioural modelling.

The xaitMap plug-in will let Unity users create NavMeshes on scene objects, customise collision avoidance parameters, and even comes with an xaitment 'Starter Pack of Movement Behaviours' for developers new to the technique.

> ***"The plug-ins will work with Unity out of the box, and the xaitMap product will work inside the Unity editor."***
>
> Mike Walsh, xaitment

Meanwhile the xaitControl Unity plug-in includes runtime libraries and a graphical finite state machine editor created to function smoothly within Unity's scene editor and Mono Develop environments.

WORKING TOGETHER

Many readers will of course be aware that the recently released 3.5 update to Unity, which was aimed at making the engine more relevant for triple-A studios, introduced many new features including pathfinding functionality.

However, Walsh is confident xaitment's experience in AI tech means its plug-in will remain an appealing tool for Unity developers looking to push their creations to a new level.

"We were certainly fully aware while developing our plug-ins that Unity were working on AI tech, and we talked with Unity and its CEO David Helgason, and his stance was 'look Mike; the way we work is that we don't force anything specific on the customer'. Unity allows the customers to chose what they want. We are helping with that choice."

Walsh adds that with six or seven years development behind it, xaitment's plug-ins provide Unity users with a tool that boasts a heritage few rival solutions can best.

As for the motivation behind xaitment's move to better support Unity, Walsh suggests it is part of a wider industry paradigm shift set to benefit developers, and tool companies.

"It's about what we're calling 'smarter AI for all'," he confirms. "Unity has created a way for people with great ideas and great designs to realise those ideas relatively inexpensively, and things like iOS and web games have become important platforms. It's part of a broader move in that direction, and we think there is a need for those going in that direction to have quality AI and pathfinding. Those genres still need quality AI and character behaviour."

Priced at $499 each, both xaitMap and xaitControl Unity plug-ins are available now for download on xaitment's web store, and each features community support, full documentation and a variety of video tutorials. At the time of writing, a 'buy one, get one free' offer exists for those considering investing in both plug-ins.

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EPIC DIARIES

Mark Rein looks at the Borderlands 2 team's use of Unreal Engine 3

WHEN GEARBOX STUDIOS' 2009 game *Borderlands* landed, it took everyone by surprise. The critically acclaimed title looked unlike any previous Gearbox release, and immediately distinguished itself as a groundbreaking Unreal Engine 3 powered game with its unique concept art visuals and innovative gameplay. Now the development studio is pushing Unreal Engine technology even further with an ambitious sequel.

"As a studio, we've been using Unreal technology for about eight years now," said Steve Jones, technical director on *Borderlands 2* and at Gearbox Software. "So we've benefitted from a growing institutional knowledge of Unreal Engine 3 and how to best leverage its features and updates to support our goals for our games. The new Unreal Content Browser has really made a positive difference for us in the development in *Borderlands 2* – so much so that it would be difficult to imagine being where we are today without it. The official integration of Scaleform was a very welcome addition, as well."

Unreal Engine 3 gave Borderlands 2 more 'badassery' than its predecessor

BEHIND THE SCENES

Jones said many of the improvements the studio has made to its rendering pipeline aren't 'visible' – they're behind-the-scenes optimisations that reduce the cost of rendering things in their concept art style. This allowed the team to spend extra memory and performance budget in other areas, which ultimately resulted in gameplay enhancements, including more enemies on screen, better weapon visuals, and more 'badassery' across the board.

"The Unreal Engine's material system enabled our artists to add a significant of amount richness and depth to the materials used on the guns," explained Jones. "Unreal Matinee is extremely valuable not just for in-game cinematics, but also as a critical part of our pre-visualisation process. Very early on in development, we were able to identify new features we wanted to bring to the game, and Matinee was used to rapidly develop in-game proof of concepts that enabled the team to quickly evaluate ideas with minimal development cost."

Gearbox employed Unreal Kismet extensively throughout the game, and Jones said that it's the first stop for designers seeking to add interactivity and life to the game world in a fast, flexible, and powerful manner. Jones' team was also able to make use of UE3's networking support to create co-op gameplay in the huge open world environments of *Borderlands 2* without cutting back the amount of enemies and loot available.

"In *Borderlands 2*, we pushed the presentation and gameplay of our enemies, action skills, guns, and missions – to name a few features – far beyond the first game," said Jones. "This is made possible by really leveraging what Unreal Engine 3 offers for a development environment, as well as the extensibility it offers licensees to tailor it to our particular needs."

NETWORK POWER

Throughout the development process, Gearbox utilised Epic's Unreal Developer Network (UDN) extensively. Jones said UDN is an irreplaceable resource, a gathering of experts on UE3 technology assisting developers across a wide spectrum of issues encountered with game development.

"UDN has been helpful in a variety of ways, including initial framework planning, collaboratively working through an issue, proactively sharing solutions, and even documenting problems other people haven't encountered yet," said Jones.

"It's an environment that fosters continuously sharing knowledge and we all benefit from that. All of the other licensees and Epic personnel contributing to UDN and its mailing lists are a fantastic resource for getting questions answered."

According to Matt Charles, producer of *Borderlands 2* at Gearbox, the team had lofty goals heading into this second installment. Charles said one of the biggest challenges facing the team was meeting such high expectations – including their own – since the success of *Borderlands*.

The team took time to reflect on the original game before writing its own recipe for fun in the sequel. For the team, a desire to keep things fresh and avoid stagnation was important, but they also realised that Borderlands presents a large enough world that they could explore in many possible ways.

During pre-production, Gearbox spent time looking at fan and press feedback on the original game, which resulted in some very real and positive changes to the sequel such as the new mini-map on the HUD.

In addition to expanding on character growth paths, the team also added more richness to the game's missions.

Aside from its signature art style, open world environments, and those interesting characters, *Borderlands* is known for its massive amount of weapons. This time around, Gearbox has focused on bringing more personality to each gun, more distinction between manufacturers, and creating cooler visuals.

Gearbox has managed to showcase just how far UE3 can be pushed with the right art direction and creativity at the helm. PC, Xbox 360 and PlayStation 3 gamers will be in for a wild ride with *Borderlands 2*.

UPCOMING EPIC ATTENDED EVENTS:

Gadget Show Live
Birmingham, UK
April 10th to 15th, 2012

East Coast Game Conference
Raleigh, NC
April 25th to 26th, 2012

Please email: ***licensing@epicgames.com*** *for appointments.*

To discuss anything raised in this column or general licensing opportunities for Epic Games' Unreal Engine, contact: **mrein@epicgames.com**

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Canadian-born **Mark Rein** is vice president and co-founder of Epic Games based in Cary, NC. Epic's Unreal Engine 3 has won *Game Developer* magazine's Best Engine Front Line Award five times along with entry into the Hall of Fame. UE3 has won four consecutive *Develop* Industry Excellence Awards. Epic is the creator of the mega-hit *Unreal* series of games and the blockbuster *Gears of War* franchise. Follow @MarkRein on Twitter.

nordicgame

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If you were to improve your game development skills, would you take advice from the creators of Borderlands, Half-Life, Halo, Doom, Quake, Rage, Might & Magic, Sword & Sorcery EP, Critter Crunch, Bastion, Super Meat Boy, Fez, Chime, and Just Cause 2? Thought so.

Nordic Game 2012 presents:

Keynotes by

Randy Pitchford
Gearbox Software

Glen Ballard
Augury Inc.

Featuring

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UNITY FOCUS

Unity's Flash in a Flash contest shows off what studios can achieve

FLASH IN A FLASH
What is it? A Unity development competition to motivate Flash deployment using the games engine
www.unity3d.com/unity/publishing/flash

'Chief scientist' at Owlchemy Labs Alex Schwartz says he approached Dejobaan Games over moving aAaAaa..! to Flash with Unity as they saw a chance to increase the game's exposure

IN DECEMBER, Unity launched its $20,000 Flash in a Flash contest as the engine vendor opened the public beta of its 3.5 update.

The latest version includes the long-awaited and highly anticipated Adobe Flash Player deployment add-on; allowing developers to publish their games on Flash, potentially opening up titles and their creators to a much wider audience, and consequently larger revenues.

The competition, which ran for two weeks and offered developers the chance to create games in Unity and export them to Flash, saw more than 500 entrants participate in the contest, and was won by indie Cameron Owen for his 3D arcade racer *Tail Drift*.

The three runners-up were named as 'falling game' *aAaAaa..! For the Awesome* by Owlchemy Labs and Dejobaan Games, Brendan Watts' *Ski Safari*, where players must outrun an avalanche, and 3D puzzle title *Six Sides of the World* by Emilio José Lopera Joyera. Each of these games show how Unity can be used to create varying styles of gameplay and offer unique graphical visuals to a wide range of titles.

The runners-up received an award of $1,000, a Unity Pro and iOS Pro License, and an iPad 2, whilst six additional participants were also awarded with the Unity licenses.

IN A FLASH

Alex Schwartz, who holds the unusual titles of 'chief scientist' at *aAaAaa..! For the Awesome* studio Owlchemy Labs, says that Unity's Flash support is great news for games developers.

"Unity's Flash exporter lets us target a boatload more distribution platforms. It's as simple as that," says Schwartz.

"From a business standpoint it's pretty amazing to do almost no work and end up with a Flash build of our game."

Schwartz says that as well as opening up more platforms to distribute their games to, and the more potential customers that it brings, the development team was able to convert the game to a new system within the space of a week, cutting out the time consuming and costly process of creating a cross-platform title.

> ***"Unity's Flash exporter lets us target lots more distribution platforms. It's as simple as that."***
>
> Alex Schwartz, Owlchemy Labs

That is not to say that the exporter is not without its issues in its early stages. As Schwartz and his competitors worked with the Alpha version of the tool, he says that it still needs to overcome a few teething issues, although recognises that this will likely be overcome in the near future as early problems are ironed out.

"The exporter is still in alpha, so there are a couple of gaping holes that have yet to be filled, mostly relating to supporting more .NET features in Actionscript," says Schwartz.

"During the development of our Flash in a Flash entry, we had to do some pretty crazy workarounds to get our game to compile. The best analogy would be taking a machete to our codebase and doing unspeakable things to it.

"For the most part, Unity is known for one-button solutions to difficult tech problems, so I expect Unity to smooth out the current bumps within the next months."

AAaAaa..! was originally developed by Dejobaan Games, conceived after apparently seeing a YouTube video depicting a group of wingsuit jumpers making daring falls off of mountain tops. This, says Schwartz, inspired them to try to capture the adrenaline-fuelled excitement of such a dangerous feat within a video game.

GOING MOBILE

After the series was met with success on PC and Mac, Owlchemy Labs approached the studio and pitched the development of a new mobile version, but it would have meant an entire re-write of the game in the Unity engine. Schwartz says, though, that developing the game through the platform and entering the title into the Flash in a Flash contest was a great opportunity for both developers to get some free money and exposure.

As for the future of Unity, Schwartz believes it looks bright, offering a solid development tool and exporter, which he says will see "Flash developers flocking to Unity, if only for the perks of the tool chain." He also says that with Owlchemy Labs' titles being heavily cross-platform, it is a 'no-brainer' that the studio will be taking advantage of the Flash exporter down the line.

As for their $1,000 winnings and Unity Pro license, Schwartz jokes: "We're re-investing the money back into Owlchemy in order to fund a clone of *Dream Heights*. Err, I mean, we'll probably use the winnings for philanthropic means."
www.owlchemylabs.com/games

HEARD ABOUT

John Broomhall talks to audio development ace, Brian Schmidt, about enlightening producers at his GDC presentation

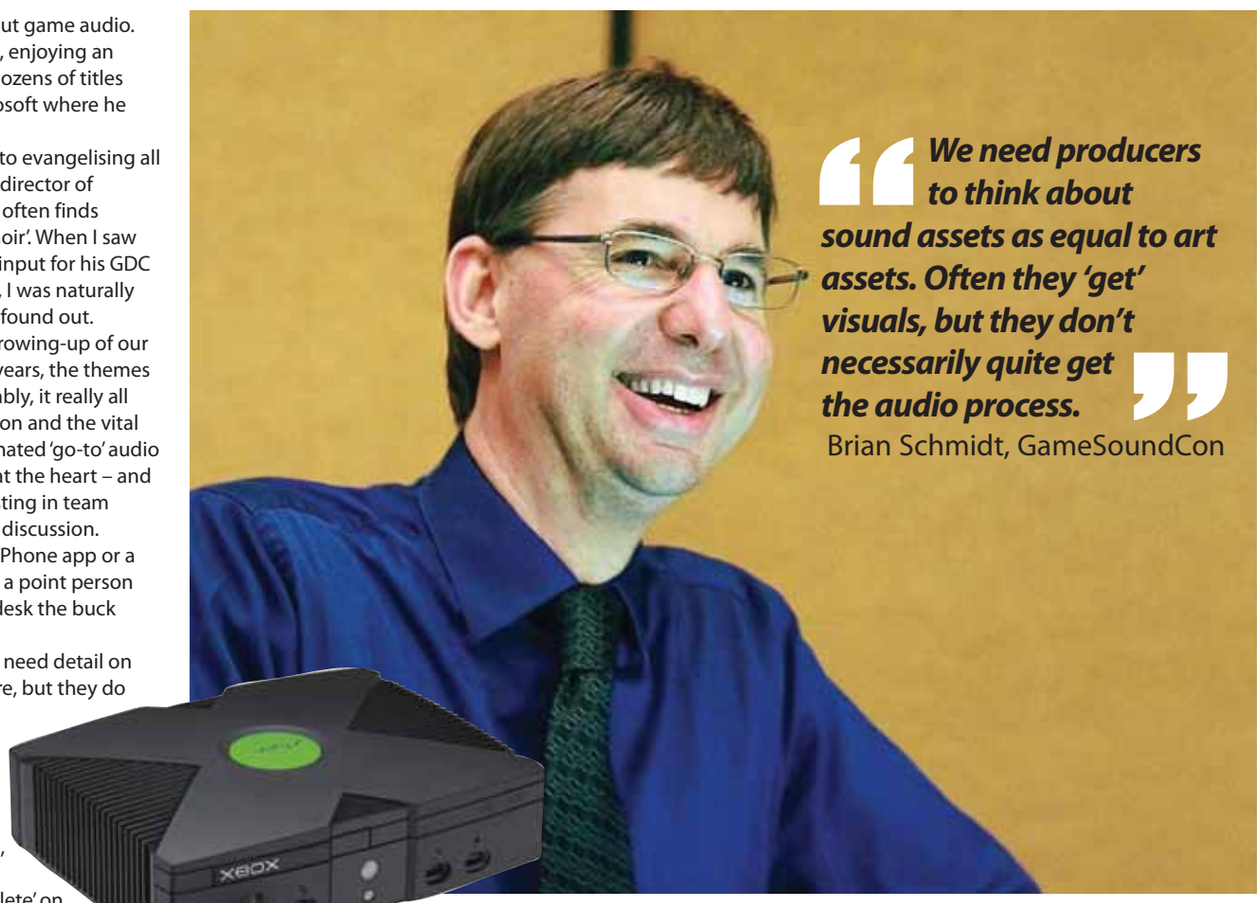
BRIAN SCHMIDT knows about game audio. He's worked in it since 1987, enjoying an illustrious career covering dozens of titles and a ten-year stint at Microsoft where he helped create Xbox.

However, when it comes to evangelising all things audio, the executive director of GameSoundCon still all too often finds himself 'preaching to the choir'. When I saw his VGM posting calling for input for his GDC address to game producers, I was naturally curious to find out what he found out.

It seems despite all the growing-up of our beloved industry in recent years, the themes are strikingly familiar. Arguably, it really all boils down to communication and the vital need for a dedicated, nominated 'go-to' audio person who, day-to-day, is at the heart – and throat – of the project investing in team relationships and proactive discussion. Whether you're making an iPhone app or a triple-A megagame, having a point person for audio at whose mixing desk the buck stops is not an option.

"Newbie producers don't need detail on the intricacies of middleware, but they do need some signposts on scheduling – in particular, the critical importance of getting audio involved early," Schmidt elaborates. "People still need to be told, 'You can't schedule 'art complete' and 'sound complete' on the same day'. They need said point-person to be in the scrums and the planning meetings so they can raise red flags when a scheduling issue that will affect audio comes up.

"We need producers to think about sound assets as equal to art assets. Often they 'get' visuals and understand a lot of the work to take art from Max/Maya via programmers into the game, but they don't necessarily quite get the audio process – the fact that game audio requires audio development time, plus game programming time, plus testing time. Poor implementation will make a really great audio asset sound really weak and unpolished."


"We need producers to think about sound assets as equal to art assets. Often they 'get' visuals, but they don't necessarily quite get the audio process."
Brian Schmidt, GameSoundCon

Working on the audio abilities of the original Xbox gave Brian Schmidt a change to learn the importance forming constructive relationships with those outside of games sound

RAZING THE BAR

"You need to leave time late in the schedule for mixing and audio level tweaking and ask, 'where is the bug bar set for my product?'," adds Schmidt.

"Generally, volume level changes are very, very low risk and can be made late in the day. I realise that no change is risk-free in terms of introducing bugs, but letting the audio team adjust levels late in a production is probably going to be very well worth it. Then there's the really boring – but crucial – things like asset naming conventions and the need to really follow them."

It's clear from Schmidt's comments that the producer/audio relationship is a two-way street and pro-active communication and consideration of the wider game development issues by the audio team is as significant as securing the producer's listening ear.

"The point person for audio needs to be prepared and able to investigate and articulate scheduling issues and provide realistic, good scheduling information," insists Schmidt. "A great audio producer should push the rest of the team as hard and as far as necessary – but not farther. Don't roll over and play dead every time the programmer says 'Oh, it'll kill the schedule to get that feature in', and the audio person's jumping up and down, saying 'If you only understood my audio vision, you'd work the weekends to do it.'"

SOUND COMMUNICATION

Remember too, that quick prototyping in ProTools can greatly help communication of audio ideas with a non-audio savvy game dev.

"During the development of the first Xbox, Marty O'Donnell and I worked closely together – he as a launch title developer trying to make the best sounding *Halo* possible, and myself working trying to ship the console itself and enable as many of the cool audio features for him as possible, but keeping in mind the bug lists and schedule. Marty kept me pretty honest. He'd be saying, 'We really need this', and I'd be saying, 'We have to launch November 15th or there'll be hell to pay'. And he'd say, 'I really need this feature for my game', and I would push back – 'Hey, I agree, it's a great feature but it's a risky feature'. Sometimes he'd talk me into it, and sometimes I'd talk him out of it. It was a pretty decent balance.

"Sure, you want to be a conservative scheduler to be on time and on budget, but you also want to challenge your team to make the game sound great. When you're in the schedule meetings every day as the audio director, you can get a good feel for where there's fluff in the schedule and where there isn't. You have to get across that sound is one of the two primary senses you have to communicate with the player.

"Visuals matter if you're looking at them, but sound and music have power beyond the screen. Audio has a lot of bang for buck in games and I've no doubt that a polished sounding game actually promotes the impression of a polished looking game. So the more producers and audio people understand and accommodate each other, the better our games will be."

www.GameSoundCon.com

John Broomhall is an independent audio director, consultant and content provider.
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Recruiter Hot Seat

We ask Crytek's **Richard Semmens** for his advice on impressing employers and what the triple-A dev can offer applicants

Why should developers work for Crytek as opposed to other studios?
We think Crytek UK is a fun and fulfilling place to work, where you get ownership of the tasks you're working on. The Nottingham Studio has a very low turnover; people come here, enjoy it, and stay. You get to work with and help drive the development of some of the best technology in the industry, and see the bleeding-edge work being done throughout the Crytek family.

What other perks do you offer?
We have a whole array of perks available to our team in Nottingham, including a bonus scheme, contributory pension plan, gym membership, cycle to work scheme, childcare vouchers and not forgetting the most important of them all, pastries and doughnuts on a Friday morning!

How many people are you looking to take on this year?
We are looking for a mix of new and experienced programmers, designers and artists. We still have more than 20 positions to fill.

Which professions in particular are you looking to take on?
We're looking for a number of game play coders at experience levels all the way from graduate to senior. Our game coders work in concert with designers and artists and have input on the final direction of game features, so it's important that they have enthusiasm for the task in hand.

We also need talented and enthusiastic artists who are looking to make beautiful games that will take the player to well realised and technically excellent new worlds, people that have a passion for art and that are ready for all the challenges involved in creating triple-A games.

Which interviewee has stood out to you the most as the best applicant for the job and why?
Interviewees that, when a programming test or an interviewer poses a problem that they don't know the 'correct' solution to, offer suggestions and talk through potential approaches to solving it. It's important that applicants have enough confidence to be willing to give things a go, even if they don't know the answer.

When we think back to the interviews of some of our strongest colleagues, what stands out to me is the enthusiasm that they showed. It's easy to tell from talking to people who has a true passion for making games and wants to improve their skill sets to be a better developer.

Somebody who demonstrates that making games is more than just a job, appeals to us much more than somebody who has well-crafted and rehearsed answers to all of our questions. For artists, a strong portfolio of work is always the best way to demonstrate your ability, whatever the format and style.

What was the worst interview?
Where the interviewee has not prepared, or where they are so nervous they are tripping over themselves when trying to get through a sentence. It's important to be relaxed when in an interview; you need to be able to articulate yourself.

GET THAT JOB

We ask recruiters how you can score that promotion or move to a new role

THIS MONTH: WEB DEVELOPER

"For the client end of browser-based games, candidates should understand client side web technologies of HTML, JavaScript and JSON data format and specifics in the newer HTML5 features including canvas tag rendering and WebGl.

"For higher performance games a knowledge of PC and Mac API's such as DirectX is important, as is an understanding of scalability issues.

"For social, networking and back end server aspects, you need knowledge of which database solutions are needed for specific data usage scenarios.

"An appreciation of network infrastructure options and the fundamentals of latency, bandwidth and compression are beneficial too. An understanding of concepts of Model View Container frameworks and Object Relational Mapping libraries is valuable."

Richard Hackett, Studio Technical Director, Blitz Games Studios

SIX-SECOND STUDIO SPOTLIGHT

- Version 2 Games is an India-based developer founded in September 2010.
- The studio was formed by Indian army defence contractor Zen Technologies
- It currently specialises in creating games for PlayStation platforms, such as its debut PS3 title, *Smash 'n' Survive*
- Version 2 is focusing on creating 'the next level' of 3D interactive games having previously used similar tech in developing simulators
- The studio currently employs 35 developers
- Version 2 CEO Rajat Ohja says the studio is looking to expand its headcount, number of projects and work cross-platform in future

It is also crucial for people to be honest about the skills on their CV, as the interviewer will be able to determine quickly how well it represents an individual. It is much better to focus on what you know and what you are confident to talk about in depth than padding out your CV.

How can people best prepare for a successful interview?
Research the company you are applying for, know what business they are in, what games they make and what makes them good at doing this. We're always impressed by people that have taken the time to understand why they want to get a job with us rather than just because it was a mail shot to every company out there.

Prepare questions. You will most likely be sat in front of leads or directors within the industry, these guys will have a wealth of experience and if nothing else comes of your interview, ask questions to further your development or understanding of the jobs you are going for.

The CryEngine Free SDK is out there for people to experiment with. You have a chance to demonstrate your interest in the engine, an insight into how we work and how we utilise our technology; take it!

What is your view on the training of young developers in the UK, is enough being done to equip them with the necessary skills?
Before games development courses were widely available, graduates would often enter the industry with more traditional degrees such as computer science. These days, a significant number of graduates are leaving games-focused programming courses with a decent knowledge of C++ and an awareness of many different aspects of the game development process.

We are, however, seeing a gap in their knowledge with the lower-level aspects of software engineering; how the code they are writing maps into assembly generated by the compiler and how constructs that they are using are actually implemented.

> ***"Being such a fast evolving sector it is hard for universities to keep pace with cutting edge changes."***

For programmers, a course that covers the more technical aspects of development such as programming languages, maths, algorithms & data structures produce stronger candidates. The better courses strike a good balance between theoretical and practical work. Group projects are always great learning experiences for students.

We work with a number of universities and have noticed a marked increase in the teaching quality and level of skill that Graduates are armed with when they leave university.

Being such a fast evolving industry, it is hard for universities to keep pace with the cutting edge changes that go on. But it is critical that they develop their ability to teach both core fundamental skills as well as expose their students to the cutting edge engines and techniques required to make the most of their students' creativity.

NEW STUDIO ALERT!

A NEW INDEPENDENT studio called PixelFoundry has been formed by ex-EA Tiburon devs Jerry Phaneuf and Volga Aksoy.

The EA veterans are now working on space-based RTS title *BlackSpace* for PC, with the potential to take it cross-platform, and Aksoy says that whilst the current project will be created by just them, their "lofty goals could be better accommodated by acquiring more talent".

"Aside from the creative freedom it offers, we really wanted to have the chance to create games that resonate with us as gamers," says Phaneuf.

"I think it's likely the same reason that many devs go Indie. We think we have some ideas and insights that will allow us to offer something new."

MOVERS AND SHAKERS

This month: NaturalMotion Games, Codemasters and Jagex hire senior professionals for their teams

NATURALMOTION NaturalMotion has appointed former EA and Playfish staffer **DAN BORTHWICK** as head of its recently established NaturalMotion Games London studio.

Borthwick has left his role as common technology lead at Playfish, which he also helped found, to take up the role. He will be responsible for spearheading NaturalMotion's drive to scale up the company's games development effort, which has created titles such as *BackBreaker* and *MyHorse*, which has been downloaded more than eight million times to date.

Originally a tools company specialising in animation tech, NaturalMotion moved into developing games in 2007, launching its games division in late 2010. Along with its game production efforts, the company continues to craft animation tools such as its popular Morpheme solution.

The new London studio is to focus on creating high-end free-to-play titles for iOS, and is currently looking to recruit for new positions at the office.

"I am thrilled to be joining NaturalMotion Games and look forward to setting up a new studio in London to build on their recent success, develop great games and continue to push what's possible in the social mobile space," said Borthwick of his appointment.

CODEMASTERS UK publisher and developer Codemasters has recruited industry veterans **ANDY NORMAN** (left) and **COLIN ROGERS** (right) to its Southam Racing studio.

Norman, whose last job as game director was at independent studio Monumental games, will take up the role of senior producer.

Rogers, meanwhile, joins as chief game designer on the developer's new racing IP, and boasts 17 years of experience in the industry, having worked in franchises such as *Crysis* and *Need for Speed*.

"We are committed to building our teams, and strengthening our studio, with only the very best industry talent," said Codemasters VP of development Julian Widdows. "It's with great pride that we welcome developers of Andy and Colin's calibre to our family, and look forward to them being the vanguard of our ambitious growth plans for 2012."

JAGEX *RuneScape* developer Jagex has continued its hiring spree this month by reinforcing its marketing department with ex-Codemasters VP **DAVID SOLARI** (left) as CMO and former Xbox exec Simon Etchells (right) as global marketing manager.

Solari, who previously worked at Codemasters for 14 years, and oversaw the release of titles such as *Lord of the Rings Online* and *Dungeons and Dragons*, will be responsible for leading future marketing strategies for Jagex.

"Having worked in the digital games space for many years, I have followed Jagex's incredible success and growth with great interest," said Solari. "The company's strength in pioneering free-to-play browser games is inspiring. This role presents a huge and exciting challenge for me."

Etchells meanwhile will be responsible for promoting *RuneScape* around the world as the studio looks to widen the reach of its leading franchise.
He has previously worked at LucasArts, EA, and mostly recently Microsoft, where he was responsible for overseeing the release of first party titles for Kinect and other Xbox 360 franchises such as *Gears of War* and *Halo*.

EUTECHNYX Newcastle Upon-Tyne-based developer Eutechnyx has appointed Frogster founder **DIRK WEYEL** as its worldwide publishing head.

Weyel, who takes up the role of non-executive director, will oversee the worldwide release of its upcoming racing title *Auto Club Revolution*.

"It is my immense pleasure to be able to welcome him into the Eutechnyx group in order to help us build up the newly established publishing operation, and drive it forward in the way that I know it truly deserves," Eutechnyx COO Darren Jobling.

SERVICES SPOTLIGHT

This month: **LeaseWeb**

LeaseWeb was founded in 1997 by Con Zwinkels and Laurens Rosenthal and originally set up as a web design firm.

These days it has positioned itself as a global hosting provider after an increasing demand from the games industry to move gaming experiences online. Developers now looking to offer functionally smooth multiplayer titles and create permanent online worlds with the capacity to facilitate thousands of players simultaneously.

To help meet these ambitions, LeaseWeb offers its own dedicated hosting services, cloud hosting and custom hybrid infrastructure solutions, while also allowing a dev's own hardware to be housed in its data centres.

The company manages the data centre facilities and hardware, whilst it asks its customers to manage server OS, application and database levels.

"From speaking to many gaming companies in the industry, this is a perfect fit," says LeaseWeb business development manager Paul Grimwood.

"Gaming companies don't want to have to worry about the hardware logistics, the repairing, the data centres, the networks. They want to develop

their games, manage the applications to fine tune when needed, and focus on their core business: games."

Grimwood claims that the tech firm looks to differentiate itself from its rivals by standardising its server offerings and making it a cost-effect hosting solution.

He also says that its network offers a bandwidth capacity of 2.3Tbps to countries around the world, peaking at 1.3 Tbps on a daily basis.

Grimwood believes that the industry is also heading toward 'hybrid infrastructure solutions', meaning the company now offers a selection of its services in one package to fit a developer's growing needs.

"We are asked to build infrastructures combining dedicated server infrastructure with our cloud services, content delivery network services and/or even colocation racks," Grimwood explains.

"Using several types of technology together offers the customer with a lot of benefits. For instance, customers can place their CPU intensive database services on our dedicated server infrastructure, get computing capacity from our cloud and pushing bandwidth through our CDN services."

As for the future, LeaseWeb is currently looking on expanding its cloud and CDN functionality and integrating this into its self-service customer portal, whilst it is also looking to build further data centres throughout new regions.

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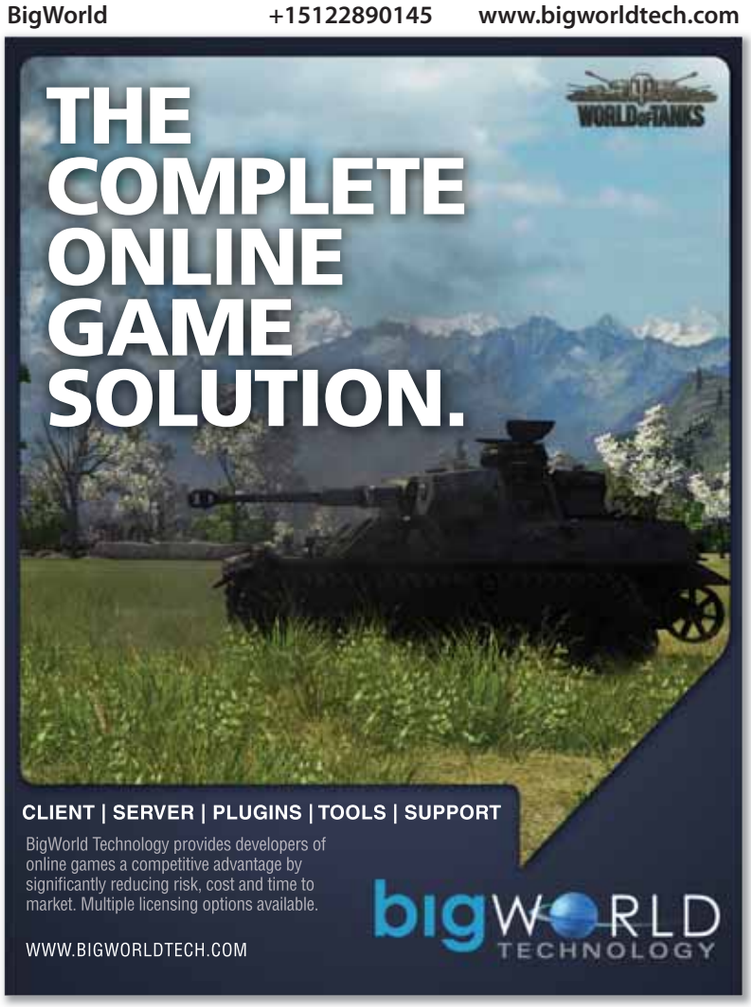
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TOOLS SPOTLIGHT

This month: **Codeplay**

Former Eutechnyx lead programmer Andrew Richards founded Codeplay in 1999, with the aim to create specialised developer tools to exploit advances in processor technologies.

One of the tech firm's leading pieces of middleware is its PS3 toolset Offload, which provides developers with a compiler, runtime and set of libraries allowing them to enhance game performance.

It does this by allowing fast deployment of C++ codebases to the SPU processors, which Codeplay's technical director Colin Riley says offers an iterative method of refining and exploiting performance via an "efficient utilisation of compute resources".

The tool has been used in the development of titles such as Eutechnyx's racing simulator *NASCAR: The Game 2011*, as well as many other studios under license, although these have not been made public.

"Offload is the only toolkit available that gives programmers the amount of flexibility required to quickly iterate their development process of developing for PS3 SPUs," says Riley. "In a competitor sense we have none, which is why developers and hardware manufacturers keep coming back to us."

Riley says that Offload also has a number of licensing options for smaller companies and indies, whilst also offering a free SDK for developers wishing to test the software before a full purchase.

"As with other service and middleware suppliers in the industry, our toolset has a wide variety of licensing options," he explains. "We have a competitive Indie pricing scheme, but there is also nothing stopping a small studio using our free Community edition."

"Codeplay is always looking to the future and have been developing technology over the past year that is designed for new hardware yet to reach market," he states. "If we see an opportunity for our technology to help developers on next-gen systems we will certainly look at deploying it to those platforms."

The company is also collaborating with firms such as AIGameDev.com and lighting tech specialists Geomerics on creating low-power GPU tech.

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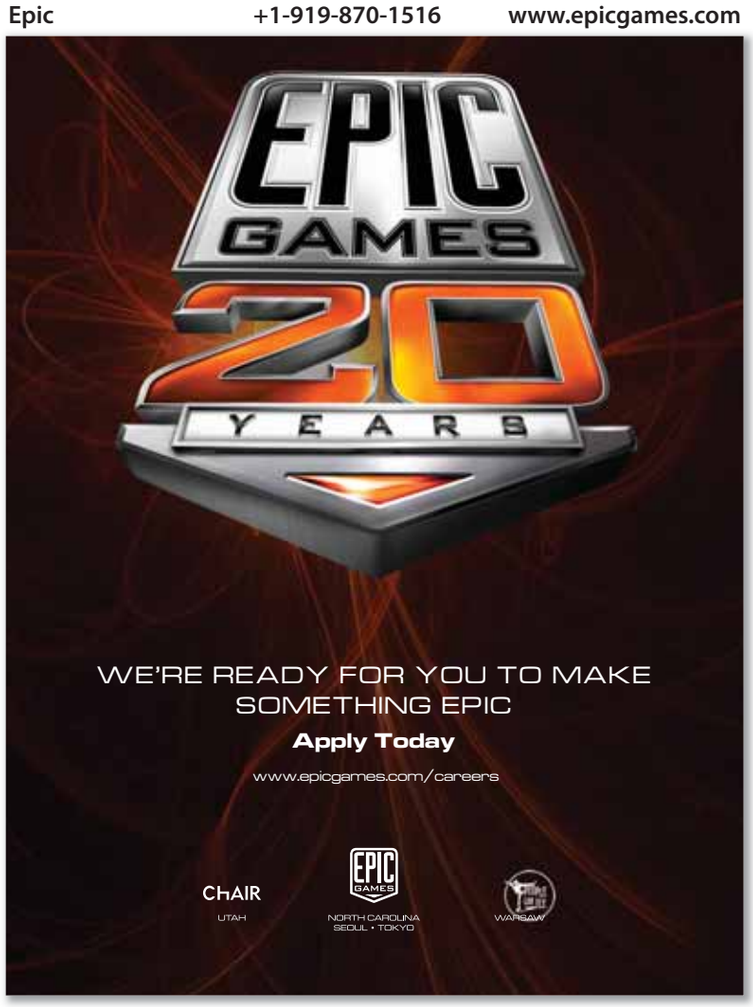

TRAINING SPOTLIGHT

This month: **Abertay University**

UNIVERSITY of ABERTAY DUNDEE

Abertay University is well renowned in the industry for offering the world's first higher education game development degree back in 1997.

Since then many other educational institutions have followed suit, but the university has the highest number of Skillset accreditations for computer games courses in the UK, as well as holding Skillset Media Academy status.

It now offers courses covering computer art, game audio, design and production management and programming and technology, as well as also offering postgraduate courses such as its professional masters program in games development, launched as recently as 2009.

Academic director for Abertay's institute for Arts, Media and Computer Games Louis Natanson says there are many benefits open to students who study at the campus, beyond the university's reputation as a leading industry education hub.

"We've always worked very closely with the industry, to ensure our courses are developing the skills graduates need to get great jobs and be productive in a company from day one," he says.

He adds that staff on the courses have worked for companies including Codemasters, DMA Design, Denki and EA, whilst the University brings in companies to meet students, mentor them and also provide advice and set real commercial briefs for student projects to help bring them a step closer to the real thing.

> ***"We've always worked closely with the industry to ensure our courses are developing the skills needed."***
>
> Louis Natanson, Abertay

He also says that Abertay has "particularly close working relationships" with other companies such as Disney, Microsoft, Sony and Ubisoft, and has an industry advisory panel that helps keep Abertay up to date with the latest trends in the

industry and what studios are in most need of, as well as helping guide the curriculum it delivers.

Natanson believes what sets the Scottish university apart is that it allows students to make games as part of a team, providing them with the skills needed to work on big projects with many other developers.

"Art, audio, game design and programming students work together on real projects, building real games," he says.

"That's how the industry works, so that's how we teach."

One student to have studied at the university is Dave Jones, creator of *Grand Theft Auto*, and Natanson claims

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that as well as this success story, most major games companies such as Rockstar, Sony and Codemasters and some new start-ups have a graduate from one of its courses employed.

As well as running its popular courses, Abertay also runs a multi-million pound 'Prototype Fund', which invests money into start-ups and small companies, sometimes set up by former students of the University, to help them expand their business and create new content.

In future, Natanson says Abertay will continue to listen to the industry and its students so that it can "keep delivering some of the world's greatest computer games education".

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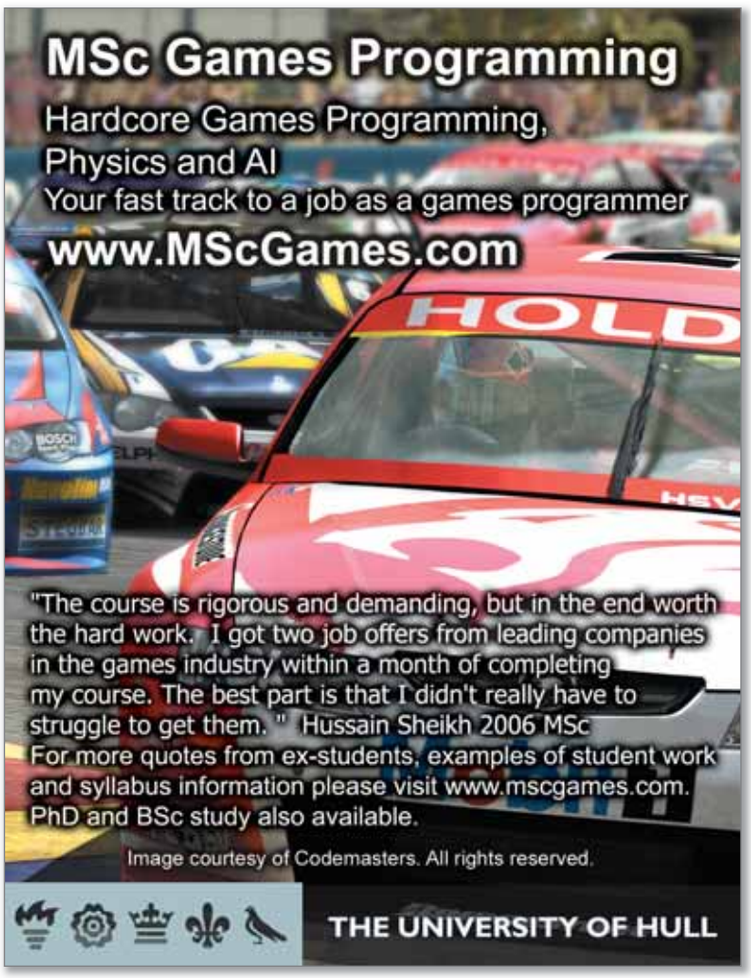
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"The course is rigorous and demanding, but in the end worth the hard work. I got two job offers from leading companies in the games industry within a month of completing my course. The best part is that I didn't really have to struggle to get them." Hussain Sheikh 2006 MSc
For more quotes from ex-students, examples of student work and syllabus information please visit www.mscgames.com.
PhD and BSc study also available.
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THE UNIVERSITY OF HULL

CODA

A sideways look at the games industry

THE INDUSTRY IN 140 CHARACTERS

A month in tweets by the industry elite

@jesseschell
Who's up for all-nude #GDC? If enough of us do it, they can't stop us! #allnudeGDC
(Jesse Schell, Schell Games)
March 5th

@pmolyneux
@petermolydeux yes we are
(Peter Molyneux, 22 Cans)
March 7th

@epicactual
Worst part of #GDC2012 is seeing people I haven't met in ages, who I really want to talk to... as I'm rushing to my next mtg. #ItsNotYouItsMe
(Mike Capps, Epic)
March 6th

@raphkoster
At party: "Anyone ever told u that u look like Raph Koster?" Me: "No." Them: "Really? Do u get called Raph sometimes?" me: "Ralph, usually"
(Raph Koster, games designer)
March 9th

@metasynthie
Preliminary metrics are in! #GDC has seen a 253% increase this year in earnest yet awkward young men with facial hair and plaid shirts.
(Naomi Clark, Brooklyn Game Ensemble) March 6th

@megganpez
Getting out of bed to make coffee then getting back in bed. This is my Monday-after-GDC.
(Meggan Scavio, GDC organiser)
March 12th

@Zash007
Enjoying today's story that we might be the second *GTAV* developer... Interesting idea. Rumours.. Rumours..
(Toby Allen, 2K Czech)
March 6th

@indiegamemovie
So far, in every theatre we've played in. We've been playing alongside or bumping '*The Artist*' & '*The Separation*' #OscarSchmoscar
(Indie Game: The Movie's Twitter feed)
March 19th

@petermolydeux
I'm freeeeee!
(Peter Molydeux, fictional Peter Molyneux)
March 7th

@nicholaslovell
Oh bugger, Kickstarter has pretensions to be a social network. Someone just "followed" me on it.
(Nicholas Lovell, Gamesbrief)
March 20th

AN OPEN MIND

PHIL FISH

Based on the Fez developer's 'difficult' week at GDC, where he caused upset with his comments on Japanese games development

During an audience Q&A session for an *Indie Game: The Movie* screening at GDC, telling a Japanese developer what he thinks about his nation's games output:
"Your games just suck."

Back on Twitter, defending his position:
"Jon Blow called Japanese games "joyless husks". I'm not seeing anybody form a lynch mob about that."

Unleashing a chain of Tweets, explaining why context should be considered:
"I regret what I said to that Japanese man. Or at least, how I said it. but this things being taken WAY out of context. Were you there? Nobody is reporting that I immediately apologised on the spot to the Japanese dev on that. That doesn't make for a good headline."

Returning to Twitter to share a personal revelation with his followers:
"I AM THE GENIUS VOICE OF A GENERATION"

IT FIGURES: GDC'S RECORD YEAR

A record-breaking **22,500** industry professionals flooded into San Francisco for **one** week to attend the Game Developers Conference, its organisers have announced. The attendance for one of the world's biggest games industry events grew by an extra **3,500** people from last year's **19,000** visitors; a rise of **17 per cent**, making the **26th** iteration of the show the most successful yet. Hundreds of companies and the industry's top professionals took part in various talks and conferences throughout the **five-day** event. **300** exhibitors filled the noisy expo floor with their booths. **One** session, the 'Flash Forward' keynote, saw almost **100** main conference speakers take to the stage in **one hour** to deliver **forty-five-second** brief overviews of their sessions in front of **thousands** of attendees. *Develop* covered more than **90** stories from the event. "The GDC reflects the full spectrum of the game development community," said GDC general manager Meggan Scavio. "The continued growth of the conference is a great indicator of a healthy and exciting industry." GDC **2013** is set to take place from March **25th to 29th** next year, and will see the event return to San Francisco and the Moscone Center.

THE EGO TRIP

We ask some of the finest game development talent a series of questions about the toughest subject of all – their own work

THIS MONTH: Tony Hawk
MOST FAMOUS FOR:
Being a skateboarding icon
ANSWERING QUESTIONS ON:
Tony Hawk's Pro Skater (PS1)

What was the North American release date of the first *Tony Hawk's Pro Skater* game for the PlayStation 1?
I want to say September 28th 1999. I think that's it.
INCORRECT:
(*The PS1 original was released August 28th, 1999)*

As the first game's release drew close, there was something else in your life that you were doing. You've said before that testing the game gave you a break from that task. What were you avoiding?
It was writing my book. The funny thing about writing that book was that I didn't actually focus on it until I sprained my ankle really badly. **CORRECT**

In that first game, there were two unlockable 'secret' characters. What were their names?
They were private Carrera and Officer Dick. We got in a bit of trouble for Private Carrera. When we submitted it for approval to the consoles, we didn't disclose that she was there, and she was a little risqué. The funny thing about her was that she was named because executive producer Joel Jewett liked Porsche Carreras, but people thought she was patterned after some porn star named Tia Carrera. She came to thank us for putting her in the game. **CORRECT**

Can you name three of the bands on the soundtrack to the game?
Any three? The Dead Kennedys, Primus and Goldfinger. **CORRECT**

There were nine levels on the original game. How many of them included collectible tapes?
It was three right? They were the competition levels. **CORRECT**

Can you name the two lead designers on the game from Neversoft?
That's hard. The guys I worked with most closely were the guys from Activision named Scott Pease and Dave Stohl. I can remember one of the designers so well, but I can't remember his name.
INCORRECT
(*Aaron Cammarata and Chris Rausch)*

LEADERBOARD

1. Charles Cecil (5/6)
1. Sean Murray (5/6)
1. Paul Gower (5/6)
6. Martin Hollis (4/6)
6. Miles Jacobson (4/6)
6. Tony Hawk (4/6)

Unfortunately Tony Hawk's memory isn't as good as his skateboarding, as he languishes in last place, or 2nd for the optimists among you.

develop FORWARD PLANNER

MAY 2012

Audio Special
A fresh examination of music and audio for the games sector, including in-house teams, hardware, technology, services and outsourcers

BUILD Special Feature: QA
How the teams stamp out bugs and ensure you pass certification work – and how you can get the most out of their services

Regional Focus: Australia
A look at how the troubled sector has coped with recent closures and how it will progress in the future

Events:
Develop Quiz – May 16th
Nordic Game – May 23rd to May 25th

JUNE 2012

Contracting Special
How flexible workforces can ease your production woes – and advice on becoming a contractor

BUILD Special Feature: AI & Character Behaviour
An update on all that is new in the world of artificial intelligence tools and making characters navigate game worlds more realistically

Regional Focus: North East UK
A look at the pros and cons of one of the UK's increasingly significant games development hubs

Events:
E3 2012 – June 5th to June 7th
UBIQ – June 18th to June 19th

JULY 2012

Analytics & Consultants
Examining how metrics tools and independent advice on gameplay and content can turn around your project

BUILD Special Feature: Technology for Social Games
A detailed look at the tools, analytics devices, platforms, and unique techniques that define how social games tick

Events:
Develop Awards – July 11th

AUGUST 2012

Develop Awards 2012 Retrospective
We look back on this year's awards ceremony and tell you who the big winners were

BUILD Special Feature: Apps and Mobile game dev tech
An investigation into the tools that underpin the increasingly important smartphone games space

Regional Focus: Nordic Regions
We examine a sector home to some of the world's biggest hits

Events:
GDC Europe – August 13th to August 15th

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THE FAQ PAGE: LUCY BRADSHAW

Develop grills respected figures from the global games industry

Maxis senior VP Lucy Bradshaw believes the industry has become a little less innovative as developer's find out which genres are most successful

Who are you and what do you do?
My name is Lucy Bradshaw and I'm the senior vice president of the Maxis label within Electronic Arts.

What are you working on right now, and what stage is the project at?
Well, truthfully, I actually run the entire label. I run the *Sims* line. We've recently announced *SimCity*, and we're releasing it ten years since the first truly Maxis-made *SimCity*.

What was the first job you ever had in the games business?
Oh, I answered phones at LucasArts. I ultimately ended up running their development division, which was a huge blast. I was there when the company just started thinking, 'hmm, there's this *Star Wars* thing that maybe we should we make games about'.

What was the first game you worked on?
Ohh. It was LucasArts' *The Secret of Monkey Island 2*, I think.

And the first game you played?
Hmm. I remember that the first game that inspired me to get into this was *Civilization* and *SimCity* – all the RTS games that I still love today really.

Nowadays I'm just a sucker for tower defense games. Just give me any of them. I'll be gone for hours.

What is your favourite game of all time, and for what reason?
You know, you do go back to the game that first sucked you in, so I'd have to say *Civ 2*.

> ***"I play on my iPhone and iPad in bed all the time – I think I might be developing carpal tunnel syndrome from holding my iPad so much, but don't tell Apple that."***

How many hours a week do you spend playing video games?
Oh gosh. Well I have two teenage daughters, one of whom is going through college. I'm so incredibly busy and these days it's all about playing on my iPhone in the pockets of time I have in-between things. Actually, I play on my iPhone and iPad in bed all the time – I think I might be developing carpal tunnel syndrome from holding my iPad so much, but don't tell Apple that.

What do you enjoy most about working in the games business?
I find it so creatively challenging; I always have. This is an industry where I'm always thinking on my toes, because so much changes in every cycle. The platform changes, the business model changes, the needs of gamers changes, people change, how you talk to them change. I'm now thinking about things with the aim to engage with customers in a real 24-seven cycle. It's just quite thrilling. Keeping up with everything is thrilling, especially trying to figure out how to engage with new waves of different types of customers.

What areas of the industry do you think needs more investment?
Because games are now are so inextricably linked with platforms and with how you engage, I think what needs most investment is user experience. We have UI designers and artists, and they are awesome, but when you think that developers now need to be following this thread from point-of-purchase all the way to update packages – there are so many points in that line that need more investment. As devices take us to places like the television this is going to be even more important. I mean, look at how bad 'TV guide' interfaces are; that's the opposite of what games need to do.

What disappoints you about the industry?
I think sometimes we, well, it's like movies, in a way. You have one local nexus and everyone drills in on that same thing and it has all got a little less innovative in some ways. I suppose the risk is higher these days to innovate.

What do you enjoy the most about the games industry?
Easy. It's a place where you find these collaborations that can bring such joy to so many people.

What do you do in your spare time that isn't related to games?
Well, I bike, I hike and I actually love camping and fishing. I do find myself, every now and then, eager to get away from it all.

What is your favourite movie and book?
Oh well that changes all the time. My favourite film is *The Fifth Element*, there's just something wonderful about it. I read recently *The Road*. I guess I wanted to be so down that I could barely get up in the morning. It is so stark, but it's brilliant.

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